A224 COPIER

SERVICE MANUAL

The A224 copier is based on the A193 copier.

Only the differences from the base copier are described in the following pages. Therefore, this document should be treated as an insert version of the base copier's service manual, although it has a separate binder. It should always be used together with the base copier's service manual.

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⚠ IMPORTANT SAFETY NOTICES

PREVENTION OF PHYSICAL INJURY

1. Before disassembling or assembling parts of the copier and peripherals, make sure that the copier power cord is unplugged.
2. The wall outlet should be near the copier and easily accessible.
3. Note that some components of the copier and the paper tray unit are supplied with electrical voltage even if the main switch is turned off.
4. If any adjustment or operation check has to be made with exterior covers off or open while the main switch is turned on, keep hands away from electrified or mechanically driven components.
5. If the Start key is pressed before the copier completes the warm-up period (the Start key starts blinking red and green alternatively), keep hands away from the mechanical and the electrical components as the copier starts making copies as soon as the warm-up period is completed.
6. The inside and the metal parts of the fusing unit become extremely hot while the copier is operating. Be careful to avoid touching those components with your bare hands.

HEALTH SAFETY CONDITIONS

1. Never operate the copier without the ozone filters installed.
2. Always replace the ozone filters with the specified ones at the specified intervals.
3. Toner and developer are non-toxic, but if you get either of them in your eyes by accident, it may cause temporary eye discomfort. Try to remove with eye drops or flush with water as first aid. If unsuccessful, get medical attention.

OBSERVANCE OF ELECTRICAL SAFETY STANDARDS

1. The copier and its peripherals must be installed and maintained by a customer service representative who has completed the training course on those models.
2. The RAM board on the system control board has a lithium battery which can explode if replaced incorrectly. Replace the battery only with an identical one. The manufacturer recommends replacing the entire RAM board. Do not recharge or burn this battery. Used batteries must be handled in accordance with local regulations.

SAFETY AND ECOLOGICAL NOTES FOR DISPOSAL

1. Do not incinerate toner bottles or used toner. Toner dust may ignite suddenly when exposed to an open flame.
2. Dispose of used toner, developer, and organic photoconductors in accordance with local regulations. (These are non-toxic supplies.)
3. Dispose of replaced parts in accordance with local regulations.
4. When keeping used lithium batteries in order to dispose of them later, do not put more than 100 batteries per sealed box. Storing larger numbers or not sealing them apart may lead to chemical reactions and heat build-up.

LASER SAFETY

The Center for Devices and Radiological Health (CDRH) prohibits the repair of laser-based optical units in the field. The optical housing unit can only be repaired in a factory or at a location with the requisite equipment. The laser subsystem is replaceable in the field by a qualified Customer Engineer. The laser chassis is not repairable in the field. Customer engineers are therefore directed to return all chassis and laser subsystems to the factory or service depot when replacement of the optical subsystem is required.

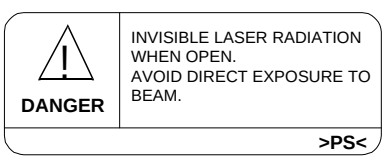
⚠ WARNING

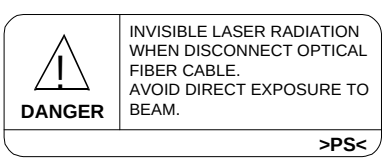
Use of controls, or adjustment, or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

⚠ WARNING FOR LASER UNIT

WARNING: Turn off the main switch before attempting any of the procedures in the Laser Unit section. Laser beams can seriously damage your eyes.

CAUTION MARKING:





1. SPECIFICATIONS

Items	A193	A224
Configuration:	Desktop	As for A193
Copy Process:	Dry electrostatic transfer system	As for A193
Originals:	Sheet/Book	As for A193
Original Size:	Maximum: A3/11" x 17" Minimum: A5/8.5" x 5.5" sideways (paper tray) A6/5.5" x 8.5" lengthwise (by-pass feed)	As for A193
Copy Paper Weight:	Paper tray: 60 ~ 90 g/m^2, 16 ~ 24 lb By-pass: 60 ~ 157 g/m^2, 16 ~ 24 lb	As for A193
Reproduction Ratios:	5 Enlargement and 7 Reduction (5E7R)	Non-memory copy: 5E6R (25% is excluded) Memory copy: Letter: 5E7R Others: 5E6R (25% is excluded; it can be included with an SP mode)
Zoom:	25% to 400% in 1% steps	Non-memory copy: 50% to 400% in 1% steps Memory copy: Letter: 25% to 400% Others: 50% to 400% in 1% steps (down to 25% can be included with an SP mode)
Power Source:	120V/60 Hz: more than 12A (for North America) 220V ~ 240V/50 Hz: more than 7A (for Europe) 220V ~ 240V/60 Hz: more than 7A (for Asia)	As for A193
Dimensions (W x D x H):	550 x 580 x 652 mm (21.7" x 22.9" x 25.7") Measurement conditions 1) With by-pass feed table closed 2) Without all options	As for A193
Weight:	Less than 57 kg (126 lb)	Less than 58 kg (128 lb)
Warm-up Time:	Less than 30 s (20°C, 68°F): 115V machine Less than 35 s (20°C, 68°F): 230V machine	Less than 40 s (20°C, 68°F): 115V/230V machine

Items	A193	A224
First Copy Time	Less than 9.8 s (from 1st paper tray to face-down copy tray) Less than 8.8 s (from 1st paper tray to face-up copy tray)	Less than 9.8 s (from 1st paper tray to face-down copy tray) Less than 8.8 s (from 1st paper tray to face-up copy tray) Less than 9.5 s (from LCT to face-down copy tray)
Copy Number Input:	Ten-key pad, 1 to 99 (count up or count down)	As for A193
Manual Image Density:	7 steps	As for A193
Automatic Reset:	60s is the standard setting; it can be changed with a UP mode.	As for A193
Auto Shut Off	15 min. is the standard setting; it can be changed with a UP mode.	30 min. is the standard setting; it can be changed with a UP mode.
Copy Paper Capacity:	Paper Tray: 250 sheets Option Paper Tray Unit: 500 sheets x 2 By-pass: 100 sheets (≤A4, LT) 10 sheets (>A4, LT) 1 sheet (non-standard)	As for A193
Toner Replenishment:	Cartridge exchange (216 g/cartridge)	As for A193
Toner Yield:	8 k copies (A4 sideways, 6% full black, 1 to 1 copying, ADS mode)	As for A193
Optional Equipment:	-Platen cover -ADF -ARDF -Paper tray unit -1-bin sorter -Finisher -4 MB memory -8 MB memory -Key counter -Tray heater -Optical anti-condensation heater	-Platen cover -ADF -ARDF -Paper tray unit -1-bin sorter -Finisher -LCT -Key counter -Tray heater -Optical anti-condensation heater -Drum heater
Copy Tray Capacity	face-down mode: 500 sheets face-up mode: 100 sheets	As for A193

Power Consumption:

- A193 -

	Mainframe Only		Full System	
	120 V	220 V ~ 240 V	120 V	220 V ~ 240 V
Maximum	Less than 1.1 kW	Less than 850 W	Less than 1.2 kW	Less than 1 kW
Copying	Approx. 470 W	Approx. 500 W	Approx. 500 W	Approx. 530 W
Warm-up	Approx. 1.0 kW	Approx. 750 W	Approx. 1.0 kW	Approx. 750 W
Stand-by	Approx. 130 W	Approx. 130 W	Approx. 140 W	Approx. 140 W
Auto Shut-off	Approx. 2.0 W	Approx. 2.2 W	Approx. 2.2 W	Approx. 2.4 W

- A224 -

	Mainframe Only		Full System	
	120 V	220 V ~ 240 V	120 V	220 V ~ 240 V
Maximum	Less than 1.1 kW	Less than 850 W	Less than 1.2 kW	Less than 1 kW
Copying	Approx. 570 W	Approx. 570 W	Approx. 600 W	Approx. 600 W
Warm-up	Approx. 1.0 kW	Approx. 750 W	Approx. 1.0 kW	Approx. 750 W
Stand-by	Approx. 130 W	Approx. 130 W	Approx. 140 W	Approx. 140 W
Auto Shut-off	Approx. 2.0 W	Less than 2.0 W	Approx. 2.2 W	Approx. 2.4 W

Noise Emission:

- A193 -

	Mainframe Only	Full System
1. Sound Power Level		
Copying	61.5 dB (A)	64.5 dB (A)
Stand-by	30.0 dB (A)	30.0 dB (A)
2. Sound Pressure Level at the Operation Position		
Copying	47.5 dB (A)	52.0 dB (A)
Stand-by	17.5 dB (A)	17.5 dB (A)

- A224 -

	Mainframe Only	Full System
1. Sound Power Level		
Copying	62.5 dB (A)	66.0 dB (A)
Stand-by	40.0 dB (A)	40.0 dB (A)
2. Sound Pressure Level at the Operation Position		
Copying	47.5 dB (A)	52.0 dB (A)
Stand-by	17.5 dB (A)	17.5 dB (A)

Copying Speed in Multicopy Mode:

- A193 -

	A4 sideways/ 11" x 8.5"	**A3/11" x 17"**	**B4/8.5" x 14"**
Non-memory copy mode	15	9	10
Memory copy mode	20	11	12

- A224 -

	A4 sideways/ 11" x 8.5"	**A3/11" x 17"**	**B4/8.5" x 14"**
Non-memory copy mode	20	11	13
Memory copy mode	25	13	15

Memory Capacity:

- A193 -

		Standard (4 MB)	**Optional 4 MB**	**Optional 8 MB**
Multi-page duplex copy		x	O	O
Sort, Rotate Sort	A4, LT	O	O	O
	B4, LG	x	O	O
	A3, DLT	x	O	O
Number of pages	A4, 6%	35	99	99
	ITU-T #4	15	45	75

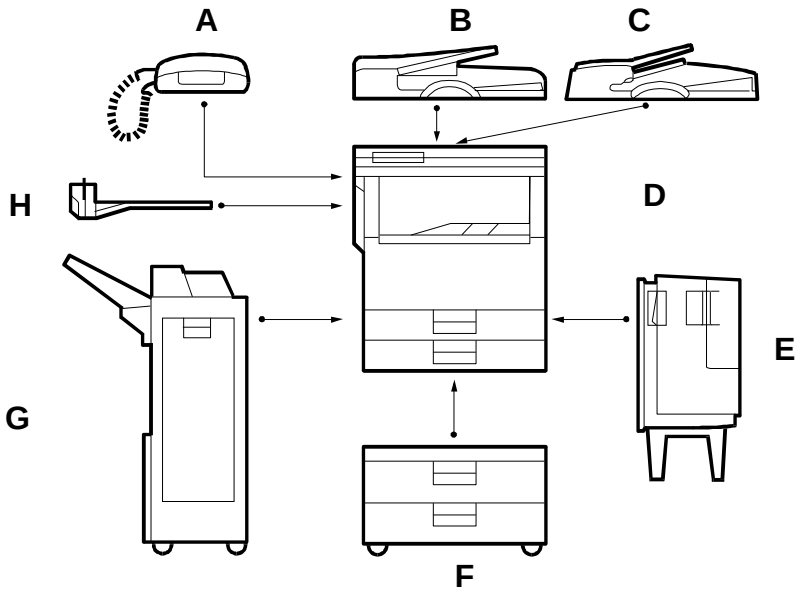
x: Not available O: Available

- A224 -

		Standard 12 MB (4 MB + 8 MB)
Multi-page duplex copy		O
Sort, Rotate Sort	A4, LT	O
	B4, LG	O
	A3, DLT	O
Number of pages	A4, 6%	99
	ITU-T #4	75

x: Not available O: Available

2. MACHINE CONFIGURATION



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Version	Item	Machine Code		No.
		A193	A224	
Copy	Copier	A193	A224	D
	ADF (Option)	A628		B
	ARDF (Option)	A661		C
	Platen Cover (Option)	A645		
	Paper Tray Unit (Option)	G697		F
	Duplex Unit	G694 (Option)	Standard	
	1-bin Sorter (Option)	A629		H
	Finisher (Option)	A666		G
	LCT	N/A	A667(Option)	E
	Memory 4 MB	A642-01 (Option)	N/A	
	Memory 8 MB	A642-02 (Option)	Standard	
Fax	Fax Controller (Option)	A693	A804	
	Telephone (Option)	H160		A
	ISDN (Option)	A644		
	HDD (Option)	A641		
	Memory Card (Option)	H130-54		
	Function Card (Option)	H130-52		
	Page Memory (Option)	A640		
Printer	Printer Controller (Option)	A643-00 (115V) A643-01 (230V)	A805-00 (115V) A805-01 (230V)	
	PS (Option)	A643-02		
	HDD (Option)	A643-03		

3. ELECTRICAL COMPONENT DESCRIPTIONS

Refer to the electrical component layout and the point-to-point diagram on the waterproof paper in the pocket for the locations of these components.

Symbol	Index No.	Description	Note
Printed Circuit Boards			
PCB1	54	High Voltage Supply Board	Supplies high voltage to the drum charge roller, development roller, transfer roller, and discharge brush.
PCB2	50	Lamp Stabilizer	Provides dc power for the exposure lamp.
PCB3	58	PSU	Provides dc power to the system and ac power to the fusing lamp.
PCB4	61	LD Unit	Controls the laser diode.
PCB5	63	Operation Panel	Controls the touch panel display and LED matrix, and monitors the key matrix.
PCB6	51	SBU	Contains the CCD, and outputs a video signal to the BICU board.
PCB7	55	IOCSS	Controls the mechanical parts of the printer.
PCB8	52	BICU	Controls all copier functions both directly or through other control boards.
PCB9	53	MSU	Compresses the image data, stores the data, and applies the image editing.
PCB10	62	Polygon Motor Driver (A224 only)	Drives the polygon motor.
Motors			
M1	45	Main	Drives the main body components.
M2	37	Scanner Drive	Drives the 1st and 2nd scanners (dc stepper motor).
M3	47	Transport Vacuum Fan	Aids paper transportation from the transfer roller to the fusing unit.
M4	49	Polygonal Mirror	Turns the polygonal mirror.
M5	38	Toner Supply	Rotates the toner bottle to supply toner to the toner supply unit.
M6	35	Exhaust Fan	Removes heat from around the fusing unit.
M7	46	Fusing Unit Fan (A224 only)	Removes heat from around the fusing unit.
Sensors			
S1	33	Upper Exit	Detects misfeeds.
S2	31	Lower Exit	Detects misfeeds.
S3	28	Left Vertical Door	Cuts the +5 and +24 Vdc power lines.
S4	27	Left Door	Detects whether the left door is open or closed.
S5	17	Relay	Detects the leading edge of paper from the paper tray and duplex unit to determine the stop timing of the paper feed clutch and duplex feed motor. Also detects misfeeds.

Symbol	Index No.	Description	Note
S6	10	PCU	Detects when a new PCU is installed.
S7	29	Fusing Exit	Detects misfeeds.
S8	9	Charge Roller H.P	Informs the CPU when the drum charge roller is at home position.
S9	—-	Upper Tray Paper End (A193 only)	Informs the CPU when the upper paper tray runs out of paper.
S10	15	Lower Tray Paper End	Informs the CPU when the lower paper tray runs out of paper.
S11	16	By-pass Feed Paper End	Informs the CPU when there is no paper in the by-pass tray.
S12	13	Registration	Detects the leading edge of the copy paper to determine the stop timing of the paper feed clutch, and detects misfeeds.
S13	12	By-pass Feed Paper Width	Detects the width of the paper in the by-pass feed table.
S14	59	Humidity	Monitors the humidity around the PCU.
S15	4	Original Width	Detects the width of the original. This is one of the APS (Auto Paper Select) sensors.
S16	5	Original Length-1	Detects the length of the original. This is one of the APS (Auto Paper Select) sensors.
S17	6	Original Length-2	Detects the length of the original. This is one of the APS (Auto Paper Select) sensors.
S18	3	Platen Cover	Informs the CPU whether the platen cover is up or down (related to APS/ARE functions). ARE: Auto Reduce and Enlarge
S19	1	Scanner H.P.	Informs the CPU when the 1st and 2nd scanners are at the home position.
S20	23	Toner Density (TD)	Detects the amount of toner inside the development unit.
Switches			
SW1	20	AC	Supplies power to the copier.
SW2	32	Main	Supplies power to operate the machine.
SW3	14	Right Vertical Guide	Cuts the +5 and +24 Vdc power lines.
SW4	—-	Upper Paper Size (A193 only)	Determines what size of paper is in the upper paper tray.
SW5	19	Lower Paper Size	Determines what size of paper is in the lower paper tray.
SW6	26	Front Door Safety	Cuts the +5VLD and +24V dc power lines and detects whether the front cover is open or not.
Magnetic Clutches			
MC1	36	Charge Roller Contact	Controls the touch and release movement of the drum charge roller.
MC2	42	Upper Relay	Drives the upper relay rollers.
MC3	43	Lower Relay	Drives the lower relay rollers.

Symbol	Index No.	Description	Note
MC4	41	By-pass Feed	Starts paper feed from the by-pass feed table.
MC5	—-	Upper Paper Feed (A193 only)	Starts paper feed from the upper paper tray.
MC6	44	Lower Paper Feed	Starts paper feed from the lower paper tray.
MC7	40	Registration	Drives the registration rollers.
MC8	39	Development	Drives the development roller.
Solenoids			
SOL1	48	Junction Gate	Moves the junction gate to direct copies to the face-up or face-down copy tray.
Lamps			
L1	60	Quenching	Neutralizes any charge remaining on the drum surface after cleaning.
L2	2	Scanner	Applies light to the original for exposure.
L3	8	Fusing	Provides heat to the hot roller.
Heaters			
H1	18	Tray (option)	Turns on when the main switch is off to keep paper in the paper tray dry. Tray heaters are also available for the optional paper feed unit.
H2	34	Anti-condensation (option)	Turns on when the main switch is off to prevent moisture from accumulating.
H3	11	Drum (option)	Keeps the drum warm to prevent condensation on the drum.
Thermistors			
TH1	24	Charge Roller	Monitors the temperature of the drum charge roller.
TH2	21	Fusing	Monitors the temperature of the hot roller.
TH3	22	Fusing Edge (A224 only)	Monitors the temperature for the front edge of the hot roller.
Thermofuses			
TF1	7	Fusing	Provides back-up overheat protection in the fusing unit.
Counters			
CO1	25	Total	Keeps track of the total number of copies made.
CO2	—-	Key (option)	Used for control of authorized use. The copier will not operate until it is installed.

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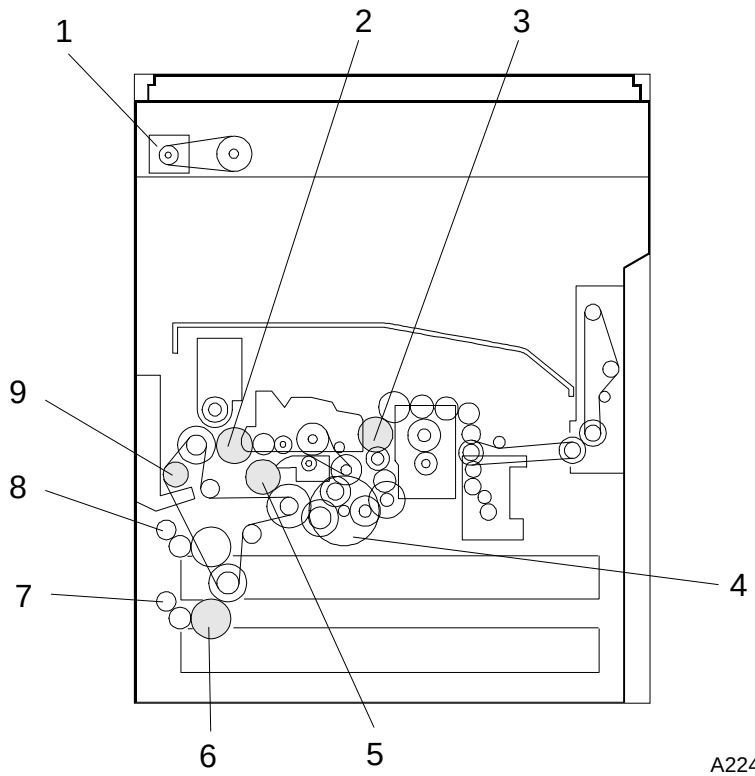
Symbol	Index No.	Description	Note
Others			
LSD1	30	Laser Synchronization Detector	Detects the laser beam at the start of the main scan.
NF	56	Noise Filter (230V machine only)	Removes electrical noise from the AC input line.
CB	57	Circuit Breaker (230V machine only)	Guards against voltage surges in the AC input line.

4. DRIVE LAYOUT



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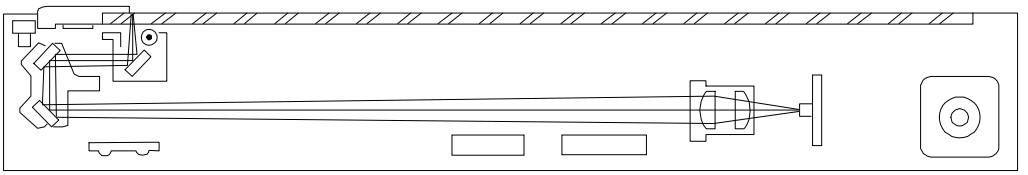
1. Scanner Drive Motor
2. Development Clutch
3. Charge Roller Contact
4. Main Motor
5. Registration Clutch
6. Lower Paper Feed Clutch
7. Lower Relay Clutch
8. Upper Relay Clutch
9. By-pass Feed Clutch

5. COPY PROCESS

5.1 OVERVIEW



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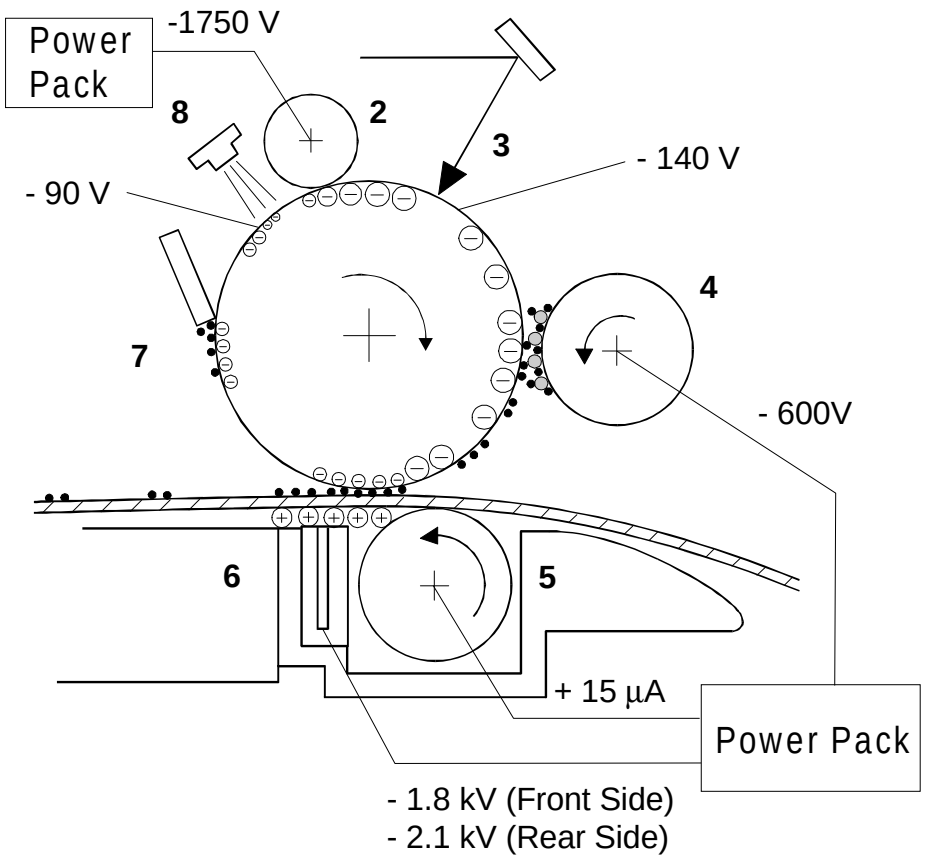

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The separation (discharge brush) voltage has been changed.

6. MAIN SCAN MAGNIFICATION/REDUCTION

The specification of the reproduction ratios in the memory mode (binary picture processing mode) has been changed to 5 enlargement and 6 reduction. This is because the higher copy speed of this model causes poor copy quality at a reproduction ration of 25%.

Reproduction ratios of 48% ~ 400% are achieved for main and sub scan magnifications in the same way as for the A193 copier, and for reproduction ratios of 25% ~ 47%, it is done by changing the scanner speed and deleting every other line.

7. LASER EXPOSURE

7.1 OVERVIEW

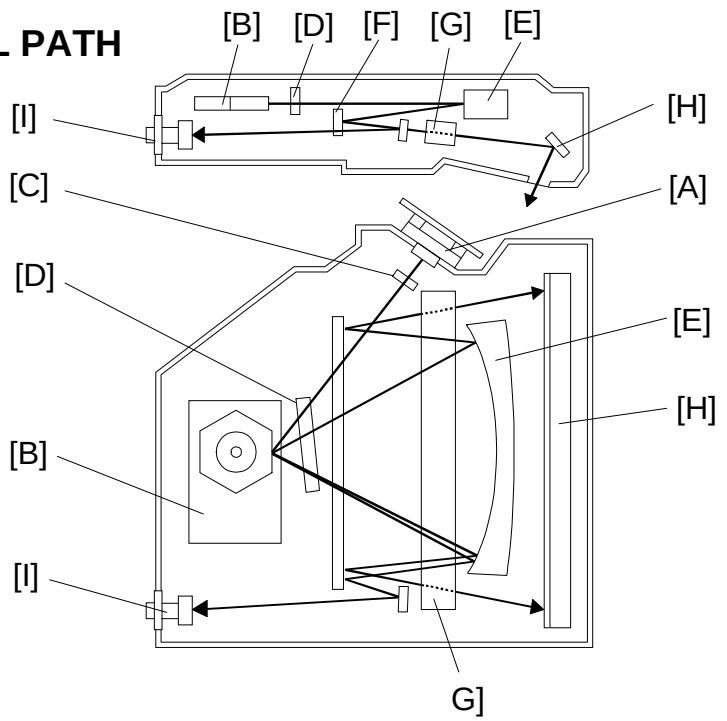
The strength of the beam is 0.6 mW on the drum surface (10 mW output from the LDDR board) at a wavelength of 780 nm.

The polygon motor speeds have been changed as follows:

Resolution (dpi)	Modes	Motor Speed (rpm)	Data Frequency (MHz)
400 dpi	Copy and Fax	17952.8	11.750
600 dpi	Printer	26926.1	26.438
391.16 dpi	Fax (image rotation)	18240.0	11.674
406.4 dpi	Fax (mm printing)	17556.0	11.674

The polygon mirror motor and motor driver are separated to prevent the laser unit from being heated by the motor driver. Also, the laser unit has a polygon motor cover and shield glass to reduce the noise from the polygon motor.

7.2 OPTICAL PATH



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The shield glass has been added.

[A]: LD Unit

[B]: Polygon Mirror

[C]: Cylindrical Lens

[D]: Shield Glass

[E]: F - Theta Mirror

[F]: 1st Mirror

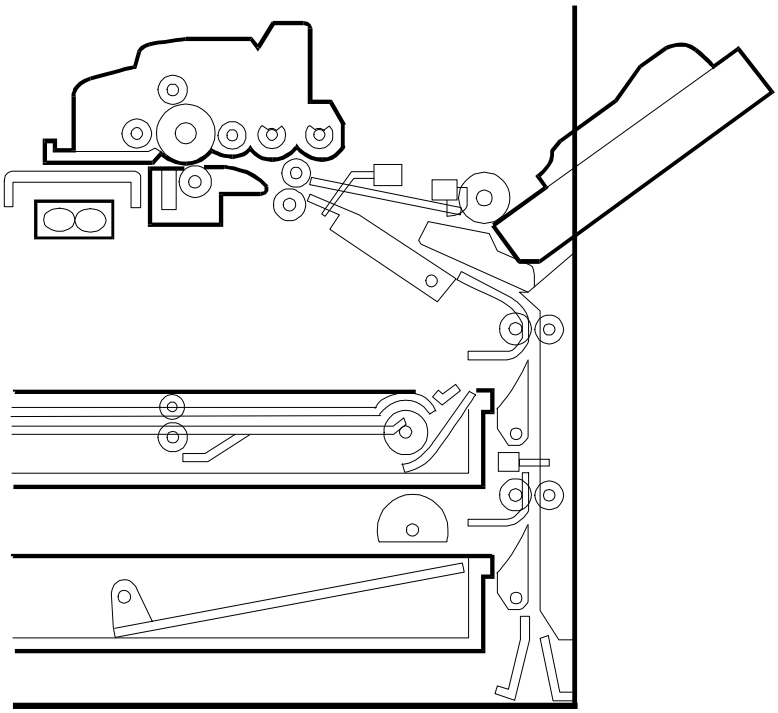
[G]: BTL

[H]: 2nd Mirror

[I]: Laser Syncronization Detector

8. PAPER FEED

8.1 OVERVIEW



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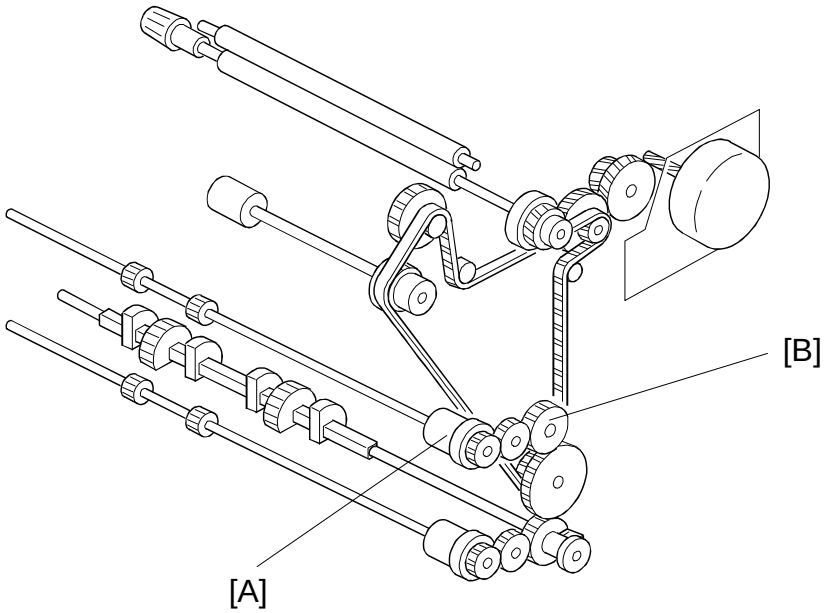
This machine has a duplex unit as a standard component, so the following parts have been deleted.

1. Upper Paper Feed Rollers
2. Upper Paper Feed Clutch
3. Upper Paper End Sensor and Feeler
4. Upper Paper Size Sensor

8.2 DRIVE MECHANISM



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Drive transfers to the upper relay clutch [A] through the gear [B] instead of the paper feed clutch.

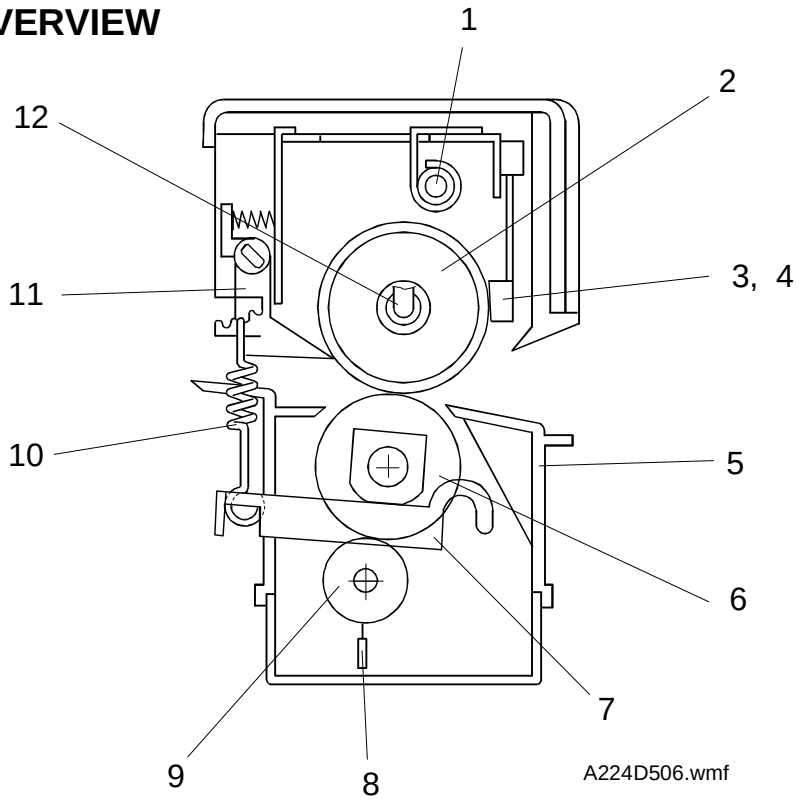
9. PAPER SEPARATION AND TRANSPORT

The voltage for the discharge brush has been changed.

- -1.8 kV (feeding from a paper tray)
- -2.1 kV (second side of duplex copies, feeding from the duplex unit)

10. IMAGE FUSING

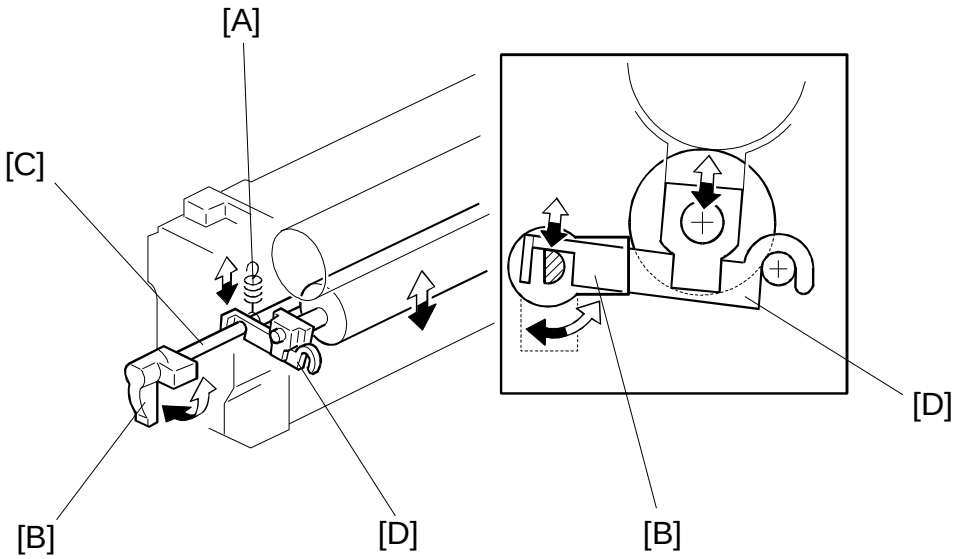
10.1 OVERVIEW



Two new parts; fusing edge thermistor and antistatic brush have been added. The fusing edge thermistor is for over heat prevention at the end of the hot roller. The antistatic brush is for prevention of off-set fusing image.

1. Fusing thermofuse
2. Hot roller
3. Fusing thermistor
4. Fusing edge thermistor
5. Lower entrance guide
6. Pressure roller
7. Pressure lever
8. Antistatic brush
9. Cleaning roller
10. Pressure spring
11. Hot roller strippers
12. Fusing lamp

10.2 PRESSURE ROLLER



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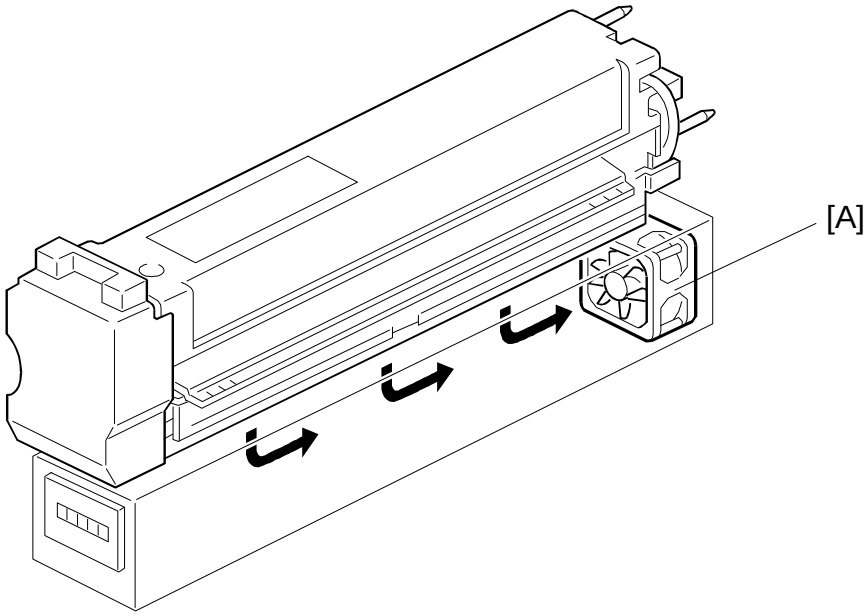
The pressure of the pressure roller can be changed in the same way as for the A193 machine. It is done by adjusting the position of the pressure springs [A]. In this machine, the fusing pressure can also be adjusted with the lever handle [B] (this is a finer adjustment than the pressure springs). The user can do this when printing on a thicker medium, such as an envelope.

The lever shaft [C] contacts the pressure lever [D]. When the lever handle rotates down, the shaft lowers the pressure lever. At this time, the pressure of the pressure roller is decreased. The upper position of the lever is normal.

10.3 FUSING UNIT FAN



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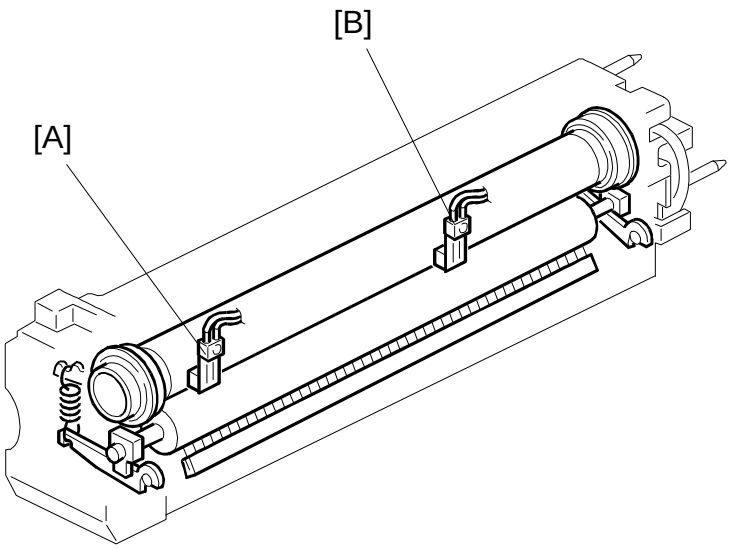
The fusing unit fan [A] has been added below the fusing unit. The fusing unit fan is necessary because the wattage of the fusing lamp is higher than in the A193 machine, as a result of the higher copy speed.

The fusing unit fan turns on if the charge roller thermistor detects a temperature in the machine of over 43°C when the main motor starts to rotate or at any time that the main motor is rotating.

The fusing unit fan stops either when the main motor stops or when the temperature in the machine falls below 40°C.

10.4 FUSING TEMPERATURE CONTROL AND OVERHEAT PROTECTION



A224D504.wmf

The fusing control type can be either phase control or on-off control, depending on an SP mode setting.

The fusing edge thermistor [A] has been added. It measures the temperature at the end of the hot roller. This is because this machine has a higher copy speed and more power is supplied to the fusing lamp. So, when making a multi-copy run with A4 size paper, the temperature at the ends of the hot roller is higher than at the middle.

Usually, the fusing temperature is controlled using the fusing thermistor [B] (at the middle). However, if the temperature at the end of the hot roller becomes greater than 230° C, the fusing lamp turns off until the temperature at the middle of the hot roller has fallen by 5°C.

11. ENERGY SAVER MODES

Basically, the function and performance of the energy saver mode in all machine configurations, except the copier configuration for the 230V machine, are the same as for the A193 machine. The following are the items which have been changed.

1. Fusing temperature in the energy saver level 2
   80°C (230V machine)
2. The recovery time from energy saver level 2
   30 s (230V machine)
3. When the auto shut-off timer runs out in the copier configuration (230V machine only)
   When the auto shut-off timer runs out, the machine enters auto shut off mode and the **ac switch** turns off automatically. This function can be disabled with SP 5-948. If this function is disabled, the main switch turns off when the timer runs out.

   NOTE: This function is necessary to meet new BAM regulations in Germany (enforced from January, 1999). The new BAM regulation requires low power consumption in the auto-shut off mode (less than 2 W).
4. Power consumption in the copier configuration

Mode	AC Switch	Main Switch	Energy Saver LED	Fusing Lamp	System +5V	Note
Energy Saver Level 1	On	On	On	165°C	On	The machine returns to standby mode if the DF is lifted or an original is placed in the ADF or ARDF.
Energy Saver Level 2	On	On	On	140°C (115 V) 80°C (230 V)	On	
Auto Shut-off Mode (SP5-948 enabled)	Off (230V) On (115V)	On (230V) Off (115V)	Off	Off	Off	The machine returns to standby mode only if either the main switch or ac switch is turned on.

12. SERVICE PROGRAM MODE TABLE

12.1 MAIN SP MODE TABLE

NOTE: 1) A "#" mark after the mode number means that this SP mode is only used for the A193 machine.
2) A "##" mark after the mode number means that this SP mode is only used for the A224 machine.
3) In the Function column, comments are in italics.
4) In the Settings column, the default value is in bold letters.
5) An asterisk (*) after the mode number means that this mode is stored in the NVRAM. If the RAM is reset, all these SP modes will return to their factory settings.

Mode No.			Function	Settings
Class 1 and 2	**Class 3**			
1-001 *	1	Leading Edge Registration (Normal copying, and duplex 1st side)	Adjusts the printing leading edge registration using the Trimming Area Pattern (SP5-902, No.10).	+9 ~ -9 0.1 mm/step **+ 0.0 mm**
			Use the •/∗ key to toggle between + and -. The specification is 3 ±2 mm. See "Replacement and Adjustment - Copy Image Adjustments" for details.	
	2	Leading Edge Registration (Duplex: 2nd side)	Adjusts the printing leading edge registration using the Trimming Area Pattern (SP5-902, No.10).	+12.5 ~ -12.5 0.1 mm/step **+ 0.0 mm**
			Use the •/∗ key to toggle between + and -. The specification is 3 ±2 mm. See "Replacement and Adjustment - Copy Image Adjustments" for details.	
1-002 *	1 #	Side-to-Side Registration (1st paper feed)	Adjusts the printing side-to-side registration from the 1st paper feed station using the Trimming Area Pattern (SP5-902, No.10).	+9 ~ -9 0.1 mm/step + 0.0 mm
			Use the •/∗ key to toggle between + and -. The specification is 2 ±1.5 mm. See "Replacement and Adjustment - Copy Image Adjustments" for details.	
	2	Side-to-Side Registration (2nd paper feed)	Adjusts the printing side-to-side registration from the 2nd paper feed station using the Trimming Area Pattern (SP5-902, No.10).	+9 ~ -9 1 mm/step **+ 0.0 mm**
			Use the •/∗ key to toggle between + and -. The specification is 2 ±1.5 mm.	

Mode No.			Function	Settings
Class 1 and 2	Class 3			
1-002 *	3	Side-to-Side Registration (3rd paper feed: Option PFU tray 1)	Adjusts the printing side-to-side registration from the 3rd paper feed station using the Trimming Area Pattern (SP5-902, No.10). *Use the •/∗ key to toggle between + and -. The specification is 2 ±1.5 mm.*	+9 ~ -9 1 mm/step + 0.0 mm
	4	Side-to-Side Registration (4th paper feed: Option PFU tray 2)	Adjusts the printing side-to-side registration from the 4th paper feed station using the Trimming Area Pattern (SP5-902, No.10). *Use the •/∗ key to toggle between + and -. The specification is 2 ±1.5 mm.*	+9 ~ -9 0.1 mm/step + 0.0 mm
	5	Side-to-Side Registration (By-pass feed)	Adjusts the printing side-to-side registration from the by-pass feed table using the Trimming Area Pattern (SP5-902, No.10). *Use the •/∗ key to toggle between + and -. The specification is 2 ±1.5 mm.*	+9 ~ -9 0.1 mm/step + 0.0 mm
	6	Side-to-Side Registration (Duplex)	Adjusts the printing side-to-side registration from the duplex tray using the Trimming Area Pattern (SP5-902, No.10). *Use the •/∗ key to toggle between + and -. The specification is 2 ±1.5 mm.*	+9 ~ -9 0.1 mm/step **+ 0.0 mm**
	7 ##	Side-to-Side Registration (LCT)	Adjusts the printing side-to-side registration from the LCT using the Trimming Area Pattern (SP5-902, No.10). *Use the •/∗ key to toggle between + and -. The specification is 2 ±1.5 mm.*	+9 ~ -9 0.1 mm/step **+ 0.0 mm**
1-003 *	1	Paper Feed Timing (Paper Feed Trays)	Adjusts the relay clutch timing (or transport motor timing when using the LCT) at registration. The relay clutch timing (transport motor timing) determines the amount of paper buckle at registration. (A larger setting leads to more buckling.)	0 ~ 10 1 mm/step **7 mm**
	2	Paper Feed Timing (By-pass)		0 ~ 10 1 mm/step **8 mm**
	3 ##	Paper Feed Timing (LCT)		0 ~ 10 1 mm/step **7 mm**
1-006 *		Double copy registration	Adjusts the position of the second copy from the center line in double copy mode. *Use the •/∗ key to toggle between + and -. See "Replacement and Adjustment - Copy Image Adjustments" for details.*	+9 ~ -9 1 mm/step **+ 0 mm**
1-007 *		By-pass Feed Paper Size Display	Displays the paper width sensor data for the by-pass feed table.	

Mode No.			Function	Settings
Class 1 and 2	**Class 3**			
1-104 *		Fusing Temperature Control	Selects the fusing temperature control mode.	**0: On/Off** 1: Phase
1-105 *	1	Fusing Temperature Adjustment (Operation)	Adjusts the fusing temperature in the operation mode.	100 ~ 200 *1°C/step* **180°C**
	2	Fusing Temperature Adjustment (Energy Saver Level 2)	Adjusts the fusing temperature in the energy saver level 2 mode. *With a lower value, the machine takes more time to reach the ready condition.*	0 ~ 165 *1°C/step* **140°C (115V machine)** **0°C (A193 - 230V machine)** **80°C (A224 - 230V machine)**
1-106		Fusing Temperature Display	Displays the fusing temperature. *Press the [C/AC] key to exit the display.*	
1-901		Auto Restart Interval	**Do not change the value.**	
1-902		Fusing Control Frequency Display	Displays the fusing control frequency which is detected by the zero cross signal generator. *Around "50" equals 50 Hz. Around "60" equals 60 Hz.*	
1-903 *		Envelope Feeding	Adjusts the by-pass feed clutch on time when the paper is fed by the registration roller. *The by-pass feed clutch turns on again after paper buckling to help the registration roller to feed thick paper.*	0 ~ 10 1 mm/step **3 mm**
2-001 *		Charge Roller Bias Adjustment	Adjusts the voltage applied to the charge roller. ***Do not change the value.***	-1000 ~ -2500 1 V/step **- 1750 V**
2-101 *	1	Leading Edge Erase Margin (Printing)	Adjusts the leading edge erase margin. *The specification is 3 ±2 mm. See "Replacement and Adjustment - Copy Image Adjustments" for details.*	0 ~ 9 1 mm/step **3.0 mm**
	2	Trailing Edge Erase Margin (Printing)	Adjusts the trailing edge erase margin. *The specification is 2 ±2 mm. See "Replacement and Adjustment - Copy Image Adjustments" for details.*	0 ~ 9 1 mm/step **2.0 mm**

Mode No.			Function	Settings
Class 1 and 2	Class 3			
2-101 *	3	Left Side Edge Erase Margin (Printing)	Adjusts the left side erase margin. *The specification is 2 ±1.5 mm. See "Replacement and Adjustment - Copy Image Adjustments" for details.*	0 ~ 9 1 mm/step **2.0 mm**
	4	Right Side Edge Erase Margin (Printing)	Adjusts the right side erase margin. *The specification is 2 ±1.5 mm. See "Replacement and Adjustment - Copy Image Adjustments" for details.*	0 ~ 9 1 mm/step **2.0 mm**
2-103 *		LD Power Adjustment	Adjusts the LD power. ***Do not change the value.***	-128 ~ +127 1 μW/step **- 103**
2-106*		ID Adjustment for a Test Pattern	Adjusts the image density level for black pixels on test pattern printouts (made with SP5-902).	0 ~ 255 1/step **255**
2-201 *		Development Bias Adjustment	Adjusts the development bias during copying. *This can be adjusted as a temporary measure if faint copies appear due to an aging drum.*	-500 ~ -700 1 V/step **- 600 V**
2-213*		Number of Copies After Toner Near End Detection	Selects the number of copies after toner near-end has been detected.	**0: 50 copies** 1: 20 copies
2-220 *		VT Display	Displays the TD sensor output voltage. *Press the [C] key to exit the display.*	
2-301 *	1	Transfer Current Adjustment (Paper Tray)	Adjusts the current applied to the transfer roller during printing from the paper tray. *If the user uses thicker paper, the current may have to be increased to ensure sufficient transfer of toner.*	0: -2 μA **1: 0 μA** 2: +2 μA 3: +4 μA
	2	Transfer Current Adjustment (By-pass Feed Table)	Adjusts the current applied to the transfer roller during printing from the by-pass feed table. *If the user uses thicker paper, the current may have to be increased to ensure sufficient transfer of toner.*	0: -2 μA **1: 0 μA** 2: +2 μA 3: +4 μA
	3	Transfer Current Adjustment (Duplex)	Adjusts the current applied to the transfer roller during printing from the duplex tray. *If the user uses thicker paper, the current may have to be increased to ensure sufficient transfer of toner.*	0: -2 μA **1: 0 μA** 2: +2 μA 3: +4 μA
	4	Transfer Current Adjustment (Cleaning)	Adjusts the current applied to the transfer roller during roller cleaning. *If toner remains on the roller after cleaning, increase the current.*	-10 ~ 0 1 μA/step **- 4 μA**

Mode No.			Function	Settings
Class 1 and 2	**Class 3**			
2-801		TD Sensor Initial Setting	Performs the TD sensor initial setting. This SP mode controls the voltage applied to the TD sensor to make the TD sensor output about 2.0 V. *After installing a new PCU, the machine performs this function automatically.* ***Do not use this SP mode.***	**0: No** 1: Yes
2-901*	1	Separation Voltage Adjustment (Front side - leading edge)	Adjusts the discharge brush voltage at the leading edge on the front side. *Increase if the paper is getting wrapped around the drum.*	-1000 ~ -4000 (A193) -1200~-4000 (A224) 1 V/step **- 1800 V**
	2	Separation Voltage Adjustment (Front side - other areas)	Adjusts the discharge brush voltage on the front side except at the leading edge.	-1000 ~ -4000 (A193) -1200~-4000 (A224) 1 V/step **- 1800 V**
	3	Separation Voltage Adjustment (Rear side - leading edge)	Adjusts the discharge brush voltage at the leading edge on the rear side. *For the rear side in duplex mode, higher voltage is needed. The paper has more static on it, and there is toner on one side of the paper.*	-1000 ~ -4000 (A193) -1200~-4000 (A224) 1 V/step **- 2500 V (A193)** **- 2100V (A224)**
	4	Separation Voltage Adjustment (Rear side - other areas)	Adjusts the discharge voltage on the rear side except at the leading edge.	-1000 ~ -4000 (A193) -1200~-4000 (A224) 1 V/step **- 2500 V (A193)** **- 2100V (A224)**
2-902*		FCI Smoothing (Letter Mode)	Selects whether the FCI smoothing function to remove jagged edges is enabled or disabled (this adjustment does not affect fax mode)	0: No (Disabled) **1: Yes (Enabled)**
2-903*	1	LD PWM Laser Pulse Positioning (Independent Pixels)	Selects the laser pulse positioning type that is used for independent black or gray pixels (white pixels to left and right). *Item 3 is not used.*	**0: Center** 1: Right 2: Left 3: Concentrated

Mode No.			Function	Settings
Class 1 and 2	Class 3			
2-903*	2	LD PWM Laser Pulse Positioning (Left Edge)	Selects the laser pulse positioning type that is used for the the leftmost pixel of a series of black or gray pixels. *Item 3 is not used.*	0: Center **1: Right** 2: Left 3: Concentrated
	3	LD PWM Laser Pulse Positioning (Right Edge)	Selects the laser pulse positioning type that is used for the rightmost pixel of a series of black or gray pixels. *Item 3 is not used.*	0: Center 1: Right **2: Left** 3: Concentrated
	4	LD PWM Laser Pulse Positioning (Continuous)	Selects the laser pulse positioning type that is used for pixels in the middle of a series of black or gray pixels. *Item 3 is not used.*	**0: Center** 1: Right 2: Left 3: Concentrated
2-904*	1	ID Adjustment - Binary Processing Mode (Independent pixel)	Density of independent black or gray pixels in binary processing mode (white pixels to left and right).	0 ~ 255 1/step **128**
	2	ID Adjustment - Binary Processing Mode (Left Edge)	Density of the leftmost pixel of a series of black or gray pixels in binary processing mode.	0 ~ 255 1/step **128**
	3	ID Adjustment - Binary Processing Mode (Right Edge)	Density of the rightmost pixel of a series of black or gray pixels in binary processing mode.	0 ~ 255 1/step **255**
	4	ID Adjustment - Binary Processing Mode (Continuous)	Density of pixels in the middle of a series of black or gray pixels in binary processing mode.	0 ~ 255 1 / step **255**
	The threshold value for binary picture mode is set with SP 4-418. The SP2-904 settings determine how black the black pixels are.			
2-905		Gradation Type	This is for the designer's test purposes. **Do not change the value.**	
2-907*		Laser Pulse Positioning	Selects the laser pulse position type that is used for test pattern printouts (printed with SP5-902). *Item 3 is not used.*	**0: Center** 1: Left 2: Right 3: Concentrated

Mode No.			Function	Settings
Class 1 and 2	Class 3			
2-908		Forced Toner Supply	Forces the toner bottle to supply toner to the toner supply unit for 1.5 minutes. *Toner supply finishes automatically after 1.5 minutes. This process is not normally needed in the field for this model, as the machine can handle most cases where toner runs short temporarily.*	**0: No** 1: Yes
2-909		Forced Charge Roller Cleaning	Forces charge roller cleaning. *After selecting "1", press Enter or # to start this feature. Press C to stop.*	**0: No** 1: Yes
2-910		Forced Transfer Roller Cleaning	Forces transfer roller cleaning. *After selecting "1", press Enter or # to start this feature. Press C to stop.*	**0: No** 1: Yes
2-911*		Image Density Selection	Selects the humidity coefficients for determining V_{TREF} and V_{TE} from the TD sensor initial setting output. *This setting can be adjusted by the key operator to make image density lighter or darker (see Replacement and Adjustment - Image Density Adjustment by Key Operator).*	0: Darker 1: Dark **2: Normal (A224)** **3: Light (A193)** 4: Lighter
2-912*		Charge Roller Temperature Correction	Corrects the charge roller temperature. *Do not use this SP mode unnecessarily (i.e., unless it is impossible to cure dirty backgrouund by any other means).*	-5 ~ +5 1 (25V)/step **0 (A193)** **2 (A224)**
2-913*		Auto TD Sensor Initial Setting Mode	Selects whether or not the TD sensor initial setting process is performed automatically at installation. *Select "No" if the PCU detection mechanism has a problem. However, **usually do not use this SP mode.***	0: No **1: Yes**
2-916*		Printer γ Table (GAVD) Selection	Selects the printer γ table (GAVD) type. *This SP mode is only effective in the grayscale processing mode.* *A larger value gives a darker image.*	1 ~ 4 1/Step **2**
2-980		Humidity Sensor Output Display	Displays the humidity sensor output data in hex code as %Rh.	
2-995*	1	TD Sensor Control Value Display (Factory)	Displays the TD sensor control value (V_{CONT}), which was adjusted in the factory. The machine normally uses this value, unless SP 2-999 is changed away from 0.	

Mode No.			Function	Settings
Class 1 and 2	Class 3			
2-995*	2	Factory V_{CONT} Counter	Displays what the total counter value was when the TD sensor control value was adjusted in the factory. *When V_{CONT} is adjusted at the factory, the counter is automatically set at "9999999".*	
2-996*	1	TD Sensor Control Value Setting	Inputs the TD sensor control value (V_{CONT}) *If the V_{CONT} voltage is out of specification after replacing the IOCSS board, adjust V_{CONT} using this SP mode. After changing this value, SP2-999 should be set at "1". See "Replacement and Adjustment - IOCSS Board".*	80 ~ 170 1/step **140 (A193)** **120 (A224)**
	2	Manual V_{CONT} Counter	Displays what the total counter value was when the TD sensor control value was adjusted in the field.	
2-997*	1	TD Sensor Control Value Display (Installation)	Displays the TD sensor control value (V_{CONT}) which was adjusted at installation. The machine uses this value only if SP 2-999 is set to 2.	
	2	Installation V_{CONT} Counter	Displays what the total counter value was when the TD sensor control value was adjusted at machine installation.	
2-998*		Printer Main Scan Magnification	Adjusts the magnification in the main scan direction for the printer. *Use the •/∗ key to toggle between + and -. The specification is ± 1%. See "Replacement and Adjustment - Copy Image Adjustments" for details.*	- 0.5 ~ + 0.5 0.1%/step **0.0 %**
2-999*		TD Sensor Control Value Selection	Selects the TD sensor control voltage *If the V_{CONT} value is out of specification after replacing the IOCSS board, this value should be changed to "1" after inputting the correct value with SP 2-996. See "Replacement and Adjustment - IOCSS Board".*	**0: Factory** 1: Manual 2: Installation Never select 2.
4-008 *		Main Scan Magnification (Scanning)	Adjusts the magnification in the main scan direction for scanning. *Use the •/∗ key to toggle between + and -. See "Replacement and Adjustment - Copy Image Adjustments" for details.*	- 1.0 ~ + 1.0 0.5 %/step **+ 0.0 %**

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Mode No.			Function	Settings
Class 1 and 2	**Class 3**			
4-010 *		Leading Edge Registration (Scanning)	Adjusts the leading edge registration for scanning. *(-): The image moves in the direction of the leading edge* *Use the •/∗ key to toggle between + and -.* *See "Replacement and Adjustment - Copy Image Adjustments" for details.*	- 2.0 ~ + 9.0 0.5 mm/step **+ 0.0 mm**
4-011 *		Side-to-side Registration (Scanning)	Adjusts the side-to-side registration for scanning. *(-): The image disappears at the left side.* *(+): The image appears.* *Use the •/∗ key to toggle between + and -.* *See "Replacement and Adjustment - Copy Image Adjustments" for details.*	- 6.0 ~ + 6.0 0.1 mm/step **+ 0.0 mm**
4-012 *	1	Leading Edge Erase Margin (Scanning)	Adjusts the leading edge margin for scanning. *Do not adjust this unless the user wishes to have a scanner margin that is greater than the printer margin.*	0.0 ~ 9.0 0.1 mm/step **1.0 mm**
	2	Trailing Edge Erase Margin (Scanning)	Adjusts the trailing edge margin for scanning. *See the comment for SP 4-012-1.*	0.0 ~ 9.0 0.1 mm/step **1.0 mm**
	3	Left Side Erase Margin (Scanning)	Adjusts the left side margin for scanning. *See the comment for SP 4-012-1.*	0.0 ~ 9.0 0.1 mm/step **1.0 mm**
	4	Right Side Erase Margin (Scanning)	Adjusts the right side margin for scanning. *See the comment for SP 4-012-1.*	0.0 ~ 9.0 0.1 mm/step **1.0 mm**
4-013		Scanner Free Run	Performs a scanner free run with the exposure lamp on. *After selecting "1", press Enter or # twice to start this feature. Press C/⊘ to stop.*	**0: No** 1: Yes
4-015*	1	White Plate Scanning Start Position	Adjusts the scanning start position on the white plate for auto shading. *The default is 6 mm from the leading edge. The setting specifies how far scanning starts from the default position.*	- 3.0 ~ + 6.0 0.5 mm/step **0 mm**
	2	White Plate Scanning Area	Adjusts the width of the area on the white plate (in the sub scan direction) that is scanned for auto shading. *The default is 5 mm (for 41 - 400% reproduction ratios) or 6.5 mm (25 - 40%). The current setting specifies the difference from these defaults.*	- 3.0 ~ + 6.0 0.5 mm/step **0 mm**

Mode No.			Function	Settings
Class 1 and 2	**Class 3**			
4-101*		Sub Scan Magnification (Scanning: Book Mode)	Adjusts the magnification in the sub scan direction for scanning. If this value is changed, the scanner motor speed is changed. *Use the •/∗ key to toggle between + and -. See "Replacement and Adjustment - Copy Image Adjustments" for details.*	- 1.0 ~ + 1.0 0.5 %/step **+ 0.0 %**
4-301		APS and Platen/DF Sensor Output Display	Displays the status of the APS sensors and platen/DF cover sensor. *See "APS and Platen/DF Sensor Output Display" after the SP mode table.*	
4-303 *		APS Small Size Original Detection	Selects whether or not the copier determines that the original is A5 size when the APS sensor does not detect the size. *If "A5 lengthwise" is selected, paper sizes that cannot be detected by the APS sensors are regarded as A5 lengthwise. If "Not detected" is selected, "Original size" will be displayed.*	**0: No (Not detected)** 1: Yes (A5 lengthwise)
4-401*		Binary Processing Mode (Neg./Pos.)	**Japanese version only.** **Do not change the value**.	
4-402*		Binary Processing Mode (Marker Mode)	**Japanese version only.** **Do not change the value**.	
4-403*		Gradation Processing Mode for One-to-one Copying	Selects whether binary picture processing or grayscale processing mode is done. *For example, if binary processing mode is selected, all image processing is handled using binary picture processing mode. Note that memory copying always uses binary picture processing, regardless of this setting.*	**0: No (Grayscale processing)** 1: Yes (Binary processing)
4-406*		Marker Detection	**Japanese version only.** **Do not change the value**.	
4-407*	1	MTF Filter Selection in Letter Mode (25% ~ 64%)	Selects the MTF filter level for Letter mode. A stronger filter gives sharper lines. *For how to adjust, refer to "Detailed Descriptions - Filtering and Main Scan Magnification/Reduction".* ***Never select "1".***	0 ~ 11 1/step **4**

Mode No.			Function	Settings
Class 1 and 2	**Class 3**			
4-407*	2	MTF Filter Selection in Letter Mode (65% ~ 154%)	Selects the MTF filter level for Letter mode. A stronger filter gives sharper lines. *For how to adjust, refer to "Detailed Descriptions - Filtering and Main Scan Magnification/Reduction".* ***Never select "1".***	0 ~ 11 1/step **7**
	3	MTF Filter Selection in Letter Mode (155% ~256%)	Selects the MTF filter level for Letter mode. A stronger filter gives sharper lines. *For how to adjust, refer to "Detailed Descriptions - Filtering and Main Scan Magnification/Reduction".* ***Never select "1".***	0 ~ 11 1/step **3**
	4	MTF Filter Selection in Letter Mode (257% ~ 400%)	Selects the MTF filter level for Letter mode. A stronger filter gives sharper lines. *For how to adjust, refer to "Detailed Descriptions - Filtering and Main Scan Magnification/Reduction".* ***Never select "1".***	0 ~ 11 1/step **10**
	5	Smoothing Filter Selection in Photo Mode	Selects the smoothing filter level for Photo mode. A stronger filter gives a smoother image. *For how to adjust, refer to "Detailed Descriptions - Filtering and Main Scan Magnification/Reduction".* ***Never select "1".***	0 ~ 8 1/step **3**
	6	MTF Filter Selection in Letter/Photo Mode	Selects the MTF filter level for Letter/Photo mode. A stronger filter gives sharper lines. *For how to adjust, refer to "Detailed Descriptions - Filtering and Main Scan Magnification/Reduction".* ***Never select "1".***	0 ~ 11 1/step **2**
	7	MTF Filter Selection in Marker Mode	**Japanese version only.**	
	8	MTF Filter Selection in Letter Mode - Binary picture mode (25% ~ 83 %)	Selects the MTF filter level for Letter mode (binary picture mode). A stronger filter gives sharper lines. *For how to adjust, refer to "Detailed Descriptions - Filtering and Main Scan Magnification/Reduction".* ***Never select "1".***	0 ~ 11 1/step **0**

Mode No.			Function	Settings
Class 1 and 2	Class 3			
4-407*	9	MTF Filter Selection in Letter Mode - Binary picture mode (84% ~ 400 %)	Selects the MTF filter level for Letter mode (binary picture mode). A stronger filter gives sharper lines. *For how to adjust, refer to "Detailed Descriptions - Filtering and Main Scan Magnification/Reduction".* ***Never select "1".***	0 ~ 11 1/step **4**
4-410*		AGC Default Setting	Not used ***Do not change the value.***	- 5 ~ 2 1/step **0**
4-412*		Video Data Path	Selects one of the following video data outputs, which will be used for printing. **0. Normal video processing** 1. After auto shading processing 2. After MTF processing 3. After gamma correction 4. Data straight through (no video processing) ***Do not change the value.***	
4-417		IPU Test Pattern Print	Prints the test pattern for the IPU or selects one of the following video data outputs for printing. **0. No Print** 1. Grayscale 1 2. Grayscale 2 3. Vertical Bands 4. Vertical Line - 1 dot 5. Vertical Line - 2 dot 6. Grid Pattern *Change to the copy mode display by pressing the "Interrupt" key, then print the test pattern.*	
4-418*	1	Threshold Level in Letter Mode	Selects the threshold level for Letter Mode - *Binary picture processing mode*	0 ~ 255 1/step 48
	2	Threshold Level in Letter/Photo Mode	Selects the threshold level for Letter/Photo Mode - *Binary picture processing mode*	0 ~ 255 1/step 240
4-419*	1	Threshold Level for Marker Mode (Main scan magnification)	**Japanese version only.**	
	2	Threshold Level for Marker Mode (Sub scan magnification)		

Mode No.			Function	Settings
Class 1 and 2	Class 3			
4-421*	1	Dither Pattern Selection (Grayscale Mode/Photo Mode)	Selects the dither pattern used in grayscale processing mode. *A greater number of lines gives a more detailed copy. If the value is changed, the UP mode setting is also changed.*	**0: 180-line** 1: 140-line 2: 95-line
	2	Dither Pattern Selection (Binary Picture/Photo Mode)	Selects the dither pattern used in binary picture processing mode. *A greater number of lines gives a more detailed copy. If the value is changed, the UP mode setting is also changed.*	**0: 140-line** 1: 95-line 2: 70-line
4-902		Exposure Lamp On	Turns on the exposure lamp. *To turn off the exposure lamp, select "0".*	**0: No (Off)** 1: Yes (On)
4-904*		SBU Gain Adjustment	Adjusts the coefficient of the D/A converter for the standard AGC gain curve ***Do not adjust this value.*** *However, after performing the memory all clear (SP5-801), use it to re-input the previous value.*	0 ~ 255 1/step **30**
4-905*		SBU DC Count Adjustment	Adjusts the coefficient of the D/A converter for the AGC gain curve for dc count. ***Do not adjust this value.*** *However, after performing the memory all clear (SP5-801), use it to re-input the previous value.*	0 ~ 255 1/step **30**
4-906*		SBU Reference Value Adjustment	Adjusts the coefficient of the D/A converter for the AGC gain curve for scanning the white plate. ***Do not adjust this value.*** *However, after performing the memory all clear (SP5-801), use it to re-input the previous value.*	0 ~ 255 1/step **147**
4-907*		SBU Offset Value Adjustment	Adjusts the coefficient of the D/A converter for the offset (Z/C) for the analog image data processing ***Do not adjust this value.*** *However, after performing the memory all clear (SP5-801), use it to re-input the previous value.*	0 ~ 255 1/step **180**
4-908*		SBU Auto Adjustment	Performs the auto scanner adjustment. *Using this SP mode after replacing the white plate or the memory on the BICU board. See "Replacement and Adjustment - Standard White Level" for details on how to do this.*	**0: Normal operation** 1: Start the adjustment
4-909*		EDU Test Mode	**Japanese version only.** **Do not change the value.**	

Mode No.			Function	Settings
Class 1 and 2	**Class 3**			
4-910*		Scanner Motor Control Method	Selects the scanner motor control method. *If "1" is selected, the current for the scanner motor will be reduced and jitter copy image problems will be alleviated. However, copy speed will be reduced.*	**0: Normal** 1: Special
4-912*	1	White Level Value Display (Current)	Displays the current white level value.	
	2	White Level Value Display (Factory)	Displays the white level value for the white plate scanned at the factory.	
4-913*		Shading Interval Time in DF Mode	Adjusts the interval for shading processing in DF mode. *Light and heat may affect the scanner response. If copy quality indicates that white level is drifting during a DF copy job, reduce this setting.*	0 ~ 60 1 s/step **30 s**
4-914		Mirroring Test	**These SP modes are for designer use. Do not change the values.**	
4-915*		Image Data Through Mode		
4-998*	1	MTF Filter Selection in Letter Mode - Binary Picture Mode for Notch1	Selects the MTF filter level for Letter mode (binary picture mode) at notch 1 image density level. A stronger filter gives a sharper line. ***Never select 1.***	0 ~ 11 1/step **0**
	2	MTF Filter Selection in Letter Mode - Binary Picture Mode for Notch 2	Selects the MTF filter level for Letter mode (binary picture mode) at notch 2 image density level. A stronger filter gives a sharper line. ***Never select 1.***	0 ~ 11 1/step **0**
	3	MTF Filter Selection in Letter Mode - Binary Picture Mode for Notch 3	Selects the MTF filter level for Letter mode (binary picture mode) at notch 3 image density level. A stronger filter gives a sharper line. ***Never select 1.***	0 ~ 11 1/step **9**

Mode No.			Function	Settings
Class 1 and 2	**Class 3**			
4-998*	4	MTF Filter Selection in Letter Mode - Binary Picture Mode for Notch 4	Selects the MTF filter level for Letter mode (binary picture mode) at notch 4 image density level. A stronger filter gives a sharper line. ***Never select 1.***	0 ~ 11 1/step **9**
	5	MTF Filter Selection in Letter Mode - Binary Picture Mode for Notch 5	Selects the MTF filter level for Letter mode (binary picture mode) at notch 5 image density level. A stronger filter gives a sharper line. ***Never select 1.***	0 ~ 11 1/step **2**
	6	MTF Filter Selection in Letter Mode - Binary Picture Mode for Notch 6	Selects the MTF filter level for Letter mode (binary picture mode) at notch 6 image density level. A stronger filter gives a sharper line. ***Never select 1.***	0 ~ 11 1/step **2**
	7	MTF Filter Selection in Letter Mode - Binary Picture Mode for Notch 7	Selects the MTF filter level for Letter mode (binary picture mode) at notch 7 image density level. A stronger filter gives a sharper line. ***Never select 1.***	0 ~ 11 1/step **2**
4-999*	1	Threshold Level in Letter Mode - Binary Picture Mode for Notch 1	Selects the threshold level for Letter mode (binary picture mode) at notch 1 image density level.	0 ~ 255 1/step **45**
	2	Threshold Level in Letter Mode - Binary Picture Mode for Notch 2	Selects the threshold level for Letter mode (binary picture mode) at notch 2 image density level.	0 ~ 255 1/step **50**
	3	Threshold Level in Letter Mode - Binary Picture Mode for Notch 3	Selects the threshold level for Letter mode (binary picture mode) at notch 3 image density level.	0 ~ 255 1/step **40**

Mode No.			Function	Settings
Class 1 and 2	Class 3			
4-999*	4	Threshold Level in Letter Mode - Binary Picture Mode for Notch 4	Selects the threshold level for Letter mode (binary picture mode) at notch 4 image density level.	0 ~ 255 1/step **45**
	5	Threshold Level in Letter Mode - Binary Picture Mode for Notch 5	Selects the threshold level for Letter mode (binary picture mode) at notch 5 image density level.	0 ~ 255 1/step **30**
	6	Threshold Level in Letter Mode - Binary Picture Mode for Notch 6	Selects the threshold level for Letter mode (binary picture mode) at notch 6 image density level.	0 ~ 255 1/step **30**
	7	Threshold Level in Letter Mode - Binary Picture Mode for Notch 7	Selects the threshold level for Letter mode (binary picture mode) at notch 7 image density level.	0 ~ 255 1/step **30**
5-001*		All Indicators On	Turns on all indicators on the operation panel. *Press [#] to check.* *Press [C] to exit this SP mode.*	
5-103*		Auto Paper Tray Shift	Selects whether auto paper tray shift is done or not.	0: No **1: Yes**
5-104 *		A3/11"x17" Double Count	Specifies whether the counter is doubled for A3/11"x17" paper. *If "YES" is selected, the total counter (mechanical counter) and the current user code counter counts up twice when A3/11"x17" paper is used.*	**No** Yes
5-106 *		ADS Level Selection	Selects the image density level that is used in ADS mode.	1 ~ 7 1 notch/step **4**
5-113*		Option Counter Type	Selects the optional counter type. *When the optional key counter is installed, this value should be set at "1".* ***The values "2","3", and "4" are used for the Japanese version only.***	**0: No counter** 1: Key Counter 2: Key Card 3: Coin Lock 1 4: Coin Lock 2
5-116*		Total Counter Up Timing	Determines whether the total counter counts up at paper feed-in or at paper exit.	**0: Feed-in** 1: Exit

Mode No.			Function	Settings
Class 1 and 2	**Class 3**			
5-401*	1	User Code Mode (Copier)	Selects whether the user code function is enabled in copy mode or not. *If this value is changed, the UP mode setting is also changed.*	**0: No** 1: Yes
	2	User Code Mode (Fax)	Selects whether the user code function is enabled in facsimile mode or not. *If this value is changed, the UP mode setting is also changed.*	**0: No** 1: Yes
	3	User Code Mode (Printer)	Selects whether the user code function is enabled in printer mode or not. *If this value is changed, the UP mode setting is also changed.*	**0: No** 1: Yes
5-501 *	1	PM Alarm Interval	Sets the PM interval, with an alarm. The Auto Service Call feature of the fax option also refers to this setting. *When the setting is "0", this function is disabled.*	0 ~ 255 1k copies/step **100 k copies**
	2	PM Alarm	Selects whether the PM alarm is enabled or not. If this is "0", the Auto Service Call feature of the fax option is also disabled.	0: No **1: Yes**
	3	PM Alarm (Original)	**Japanese version only.** **Do not change the value.**	
5-504*		PM Alarm (Jam Alarm)	**Japanese version only.** **Do not change the value.**	
5-507*	1	PM Alarm (Copy Size)	**Japanese version only.** **Do not change the value.**	
	2	PM Alarm (Staple)		
	3	PM Alarm (Toner End)		
5-508*	1	CE Call (Jam Level 1)	**Japanese version only.** **Do not change the value.**	
	2	CE Call (Jam Level 2)		
	3	CE Call (Door Open)		
5-801		Memory All Clear	Resets all software counters. Also, returns all modes and adjustments to the default settings. See the "MEMORY ALL CLEAR" section for how to use this SP mode correctly. ***Normally, this SP mode should not be used.*** *It is used only after replacing the NVRAM, or when the copier malfunctions due to a damaged NVRAM.*	

Mode No.			Function	Settings
Class 1 and 2	Class 3			
5-802		Free Run	Performs a free run for both the scanner and the printer. *To perform the free run, press 1 then press # twice. Press C/⊘ to stop.*	**0: No** 1: Yes
5-803		Input Check	Displays the signals received from sensors and switches. See the "INPUT CHECK" section for details. *Press ⊘/⊘ to exit the program.*	
5-804		Output Check	Turns on the electrical components individually for test purposes. See the "OUTPUT CHECK" section for details.	
5-808*	1	Display Language (115V machines)	Selects the display language for 115V machines.	**0: English** 1: French 2: Spanish
	2	Display Language (230V machines - Standard)	Selects the standard display language for 230V machines.	**0: English** 1: German 2: Dutch 3: French 4: Italian 5: Spanish
	3	Display Language (230V machines - Option)	Selects the option display language for 230V machines.	**0: English** 1: German 2: Dutch 3: Swedish 4: Norwegian 5: Danish
5-810		SC Code Reset	Resets Type A service call conditions. After performing this SP mode, turn the machine main switch off and on. See "Troubleshooting - Service Call Conditions" for how to use this mode.	**0: No** 1: Yes
5-812 *		Service Telephone Number	Use this to input the telephone number of the service representative (this is displayed when a service call condition occurs). *Press the "•/#" key if you need to input a pause (—).* *Press the ⊘/⊘ key to delete the telephone number.*	
5-816*		CSS Function	**Japanese version only.** **Do not change the value.**	
5-817	1	CE Start Call	**Japanese version only.** **Do not change the value.**	
	2	CE Finish Call		

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Mode No.			Function	Settings
Class 1 and 2	Class 3			
5-901		Printer Free Run	Performs the printer free run. *To perform the free run, press 1 then press # twice. Press C/⊘ to stop.*	**0: No** 1: Yes
5-902		Test Pattern Printouts	Prints the test pattern. *See the "TEST PATTERN PRINTING" section for how to print a test pattern. Change to the copy mode display by pressing the "Interrupt" key, then print out the test pattern.*	
5-903*		LCD Contrast Adjustment	Adjusts the contrast for the LCD on the operation panel. *Use the "Zoom" (+ or -) key to change the contrast.*	1 ~ 7 1/step **3**
5-904*		Auto Shut-off Mode Timer Setting	Inputs the auto shut-off mode timer. *If "0" is selected, the timer function is disabled.*	0 ~ 120 1 min/step **15 (A193)** **30 (A224)**
5-905*		CSS 25H Off Detection	**Japanese version only.** **Do not change the value.**	
5-906*		Exhaust Fan Control Timer Setting	Inputs the exhaust fan control timer in the energy saver mode *This time is for entering the exhaust fan motor control mode after the fusing lamp off or the main motor turns off. Until this timer expires, the exhaust fan stays on. Then the fan turns off and on in accordance with the fan control mode algorithm.*	30 ~ 120 1 s / step **30**
5-907		Brand Name and Product Name Setting	Selects the brand name and the product name for the Plug and Play function of Windows 95. The brand name and the product name for the Plug and Play function are registered in the NVRAM. If the NVRAM is defective, these names should be registered again after replacing the NVRAM. *Press down the "Photo mode" key and the # key at the same time to register the setting.*	
5-911*		APS A4/LT Sideways Priority	Specifies whether the machine selects LT sideways paper if the original is A4. If "Yes" is selected, LT sideways is selected automatically when the APS sensors detect an A4 sideways original. This feature does not work in reverse (A4 sideways paper is not selected for an LT sideways original).	**0: No** 1: Yes

Mode No.			Function	Settings
Class 1 and 2	Class 3			
5-912*	1	PCU Alarm Interval	Inputs the PCU alarm interval. *When the machine reaches the value, "Change Photoconductor Unit" will be displayed on the LCD to inform the user.*	**1 ~ 255** 1 k / Step **45 k**
	2	PCU Alarm Mode	Selects whether the PCU alarm function is performed or not.	0: No **1: Yes**
5-913		User Program (UP) Mode Data Reset	Resets the UP mode data to the defaults, except for the user codes, counters for each user code, and restricted access features.	**0: No** 1: Yes
5-930*		Fax Forwarding Mode	Selects whether the fax mode application key is accepted or not in the SC condition. *When an SC condition occurs while incoming data has been stored in the SAF memory, change the value to "1" to access fax mode. Then forward the incoming data to another fax machine by using the fax mode bit switches.*	**0: No** 1: Yes
5-932		Program Download	Downloads the system program from a ROM board to the Flash Memory on the BICU board. (Copier mode software only) See "Service Tables - Program Download" for details. *This SP can be operated when the ROM board is installed in the machine.*	**0: No** 1: Yes
5-940*		Image Rotation Mode	Selects whether the image rotation function is performed or not. *If there is a problem with the MSU, image rotation may lead to abnormal copies. If so, disable image rotation while waiting for new parts.*	**0: Yes** 1: No
5-941*		Duplex Blank Page	Selects whether the blank page is made on the front side or back side when duplex copy mode is selected.	**0: Back side** 1: Front side
5-942*		Image Compression Method	Selects the image compression method for memory mode copying.	0: MH 1: MR **2: MMR**
5-943*		Charge Roller H.P Detection	Selects whether the charge roller home position is detected or not. ***Do not use in the field, except in the following case.*** If the power goes off during TD sensor initialization, the charge roller is in contact with the PCU, so the PCU cannot be removed. Set SP 5-943 to 1, and the roller goes back to home position.	**0: No** 1: Yes
5-944*		APS Mode	Selects whether the APS mode is selected as power-up default or not.	0: No **1: Yes**

Mode No.			Function	Settings
Class 1 and 2	Class 3			
5-945*		Memory Copy Priority	Selects whether or not the memory copy mode is selected when the main switch is turned on.	0: No **1: Yes**
5-946*		Auto Shut-off Mode Disabling when there is paper in the 1-bin sorter	Selects whether the auto shut-off mode is disabled or not when there is paper in the 1-bin sorter. *When the machine enters the auto shut-off mode while there is paper in the 1-bin sorter, the sorter paper indicator will go off. If this is not acceptable, this SP mode should be set at "1"*	**0: No** 1: Yes
5-947* ##		Use of 25% Reduction Ratio in the Photo and Letter/Photo Modes	Determines whether a reduction ratio of 25% can be used in the Photo and Letter/Photo modes (binary picture mode).	**0: No (50% - 400%)** 1: Yes (25% - 400%)
5-948* ##		AC Switch Auto Shut Off	Selects whether the ac switch auto shut-off mode or not. *If at "1", the ac switch turns off automatically when entering the auto shut off mode.*	**0: No (115V Machine)** **1: Yes (230V machine)**
5-991*		VRAM Data Download	**This SP mode is only used by the designer.** **Do not change the value.**	**0: Off** 1: On
5-992		System Parameter and Data List Printing	Prints the machine status history data list. See the "SYSTEM PARAMETER AND DATA LISTS" section for how to print the lists.	**0: No Print** 1: SP mode 2: UP mode 3: Log data
6-006 *	1	ADF Side-to Side Registration	Adjusts the printing side-to-side registration in the ADF mode. *Use the •/∗ key to toggle between + and -.*	-1.5 ~ +1.5 0.5 mm/step **+ 0.0 mm**
	2	ADF Leading Edge Registration	Adjusts the leading edge registration in the ADF mode. *Use the •/∗ key to toggle between + and -.*	-10 ~ +10 0.5 mm/step **+ 6.0 mm**
	3	ADF Trailing Erase Margin	Adjusts the trailing edge erase margin in ADF mode. *Use the •/∗ key to toggle between + and -.*	-3.0 ~ +3.0 0.1 mm/step **+ 0.0 mm**
6-007*		ADF Sub-scan Magnification	Adjusts the magnification in the sub-scan direction for ADF mode. *Use the •/∗ key to toggle between + and -. See "Replacement and Adjustment - Copy Image Adjustments" for details.*	- 4.0 ~ + 4.0 0.1 %/step **0.0 %**
6-009		ADF Free Run	Performs an ADF free run. *To perform the free run, press 1 then press # twice. Press C/⊗ to stop.*	**0: No** 1: Yes

Mode No.			Function	Settings
Class 1 and 2	Class 3			
6-010*		Stamp Position Adjustment	Adjusts the stamp position in the sub-scan direction in facsimile mode.	- 10 ~ + 10 1 mm/step **0 mm**
6-901		ADF Original Sensor Output Display	Displays the status of the original sensor for the ADF and paper size. *See "DF APS Original Sensor Output Display" after the SP mode table.*	
6-902*		ADF Original Scanning Method	Selects the original scanning method in ADF mode.	**0: Original** 1: Copy paper size + magnification
6-903*		Original Non-waiting Start	Selects whether original non-waiting start is performed or not. *If the user often feeds originals that slip, and the leading edge is catching up with the trailing edge of the previous page, set this SP mode to No.*	0: No 1: Yes
6-904*		Original Scanning Interval	Adjusts the interval between originals in original non-waiting start mode. *This SP mode is only effective when SP 6-903 is set at "1".* ***A224 only:** If the user wishes to use the ARDF at the highest copy speed possible, set SW1 on the ARDF main board to 'EX', and change SP 6-904 to -85.*	30 ~ 50 (A193) -110 ~ +110 (A224) 1 mm/step 40 mm (A193) **0 mm (A224)**
6-905*		ARDF Skew Correction	Selects whether the skew correction is done or not when the ARDF feeds the rear side of the original.	**0: Yes** 1: No
6-906*		ARDF Original Buckle Adjustment	Adjusts the amount of original buckle at the ARDF registration roller when the ARDF starts to feed the rear side original. *This SP mode is only effective when SP 6-905 is at "0."*	10 ~ 40 1 mm/step **15 mm**
6-910		ADF and Printer Free Run	Performs both an ADF and printer free run . *To perform the free run, press 1 then press # twice. Press C/⊘ to stop.*	**0: No** 1: Yes
6-911		Binding Hole Range	Selects the range for which binding holes in originals are ignored *An original jam may occur when an original with binding holes is fed, because these holes are detected by the sensors. However, if using this SP mode, this can be avoided. For example, when this value is set at "12", the machine ignores binding holes within 12 mm of the leading edge of the original.*	0 ~ 20 1 mm/step **12 mm**

Mode No.			Function	Settings
Class 1 and 2	**Class 3**			
7-001		Total Operation Time Display	Displays the total operation time (total drum rotation time).	
7-002*	1	Total Original Counter (Copy + Fax)	Displays the total number of scanned originals (copy + fax modes).	
	2	Total Original Counter (Copy	Displays the total number of scanned originals (copy mode only).	
	3	Total Original Counter (Fax)	Displays the total number of scanned originals (fax mode only).	
7-003*	1	Total Copy Counter (All Modes)	Displays the total number of copies (all modes).	
	2	Total Copy Counter (Copy mode)	Displays the total number of copies (copy mode only).	
	3	Total Copy Counter (Fax mode)	Displays the total number of copies (fax mode only).	
	4	Total Copy Counter (Printer mode)	Displays the total number of copies (printer mode only).	
7-004*		CE Counter Reset	**Japanese version only.** **Do not change the value.**	
7-101*	1	Total Copies by Paper Size (A3)	Displays the total number of copies by paper size.	
	2	Total Copies by Paper Size (B4)		
	3	Total Copies by Paper Size (A4)		
	4	Total Copies by Paper Size (B5)		
	5	Total Copies by Paper Size (11" x 17")		
	6	Total Copies by Paper Size (8 1/2" x 14")		
	7	Total Copies by Paper Size (8 1/2" x 11")		

Mode No.			Function	Settings
Class 1 and 2	Class 3			
7-101*	8	Total Copies by Paper Size ($8_{1/2}$" x $5_{1/2}$")	Displays the total number of copies by paper size.	
	9	Total Copies by Paper Size (Other Size)		
7-201*		Total Number of Scans	Displays the total number of scanned originals.	
7-204*	1	Total Paper Tray Counter (1st paper tray)	Displays the total number of copies fed from each paper feed tray.	
	2	Total Paper Tray Counter (2nd paper tray)		
	3	Total Paper Tray Counter (3rd paper tray)		
	4	Total Paper Tray Counter (4th paper tray)		
	5	Total Paper Tray Counter (By-pass feed)		
	6	Total Paper Tray Counter (Duplex tray)		
	7 ##	Total Paper Tray Counter (LCT)		
7-205*		ADF Total Counter	Displays the total number of originals fed by the ADF.	

Mode No.			Function	Settings
Class 1 and 2	**Class 3**			
7-301*	1	Total Copies by Reproduction Ratio (25% ~ 49%)	Displays the total number of copies by reproduction ratio.	
	2	Total Copies by Reproduction Ratio (50% ~ 99%)		
	3	Total Copies by Reproduction Ratio (Full size)		
	4	Total Copies by Reproduction Ratio (101% ~ 200%)		
	5	Total Copies by Reproduction Ratio (201% ~ 400%)		
	6	Total Copies by Reproduction Ratio (Direct Mag.)		
	7	Total Copies by Reproduction Ratio (Direct Size Mag.)		
	8	Total Copies by Reproduction Ratio (Size Mag.)		

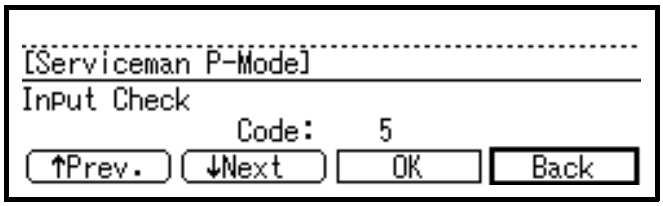
Mode No.			Function	Settings
Class 1 and 2	Class 3			
7-303*	1 ~ 23	Total Copies by Image Editing Mode	**Japanese version only.**	
	24	Total Copies by Image Editing Mode (Memory Sort)	Displays the total number of copies by image editing mode.	
	25	Total Copies by Image Editing Mode (Combine)		
	26	Total Copies by Image Editing Mode (Repeat Copy)		
	27	Total Copies by Image Editing Mode (Erase Copy)		
7-304*	1	Total Copies by Copy Mode (Overlay)	Displays the total number of copies by copy mode.	
	2	Total Copies by Copy Mode (Letter)		
	3	Total Copies by Copy Mode (Letter/Photo)		
	4	Total Copies by Copy Mode (Photo)		
	5	Total Copies by Copy Mode (Duplex)		
	6	Total Copies by Copy Mode (ADF)		
	7	Total Copies by Copy Mode (Double-copy)		
7-401*		Total SC Counter	Displays the total number of service calls that have occurred.	
7-501*		Total Jam Counter (Copies + Original)	Displays the total number of copy jams and original jams.	
7-502*		Total Copy Jam Counter	Displays the total number of copy jams.	

Mode No.			Function	Settings
Class 1 and 2	**Class 3**			
7-503*		Total Original Jam Counter	Displays the total number of original jams.	
7-504*	1	Total Jams by Location (A Jams)	Displays the total copy paper jam counters by location.	
	2	Total Jams by Location (B Jams)		
	3	Total Jams by Location (C Jams)		
	4	Total Jams by Location (D Jams)		
	5	Total Jams by Location (R Jams)		
	6 ##	Total Jams by Location (U Jams)		
	7	Total Jams by Location (W Jams)		
	8	Total Jams by Location (Y Jams)		
	9	Total Jams by Location (Z Jams)		
	10	Total Jams by Location (1st Paper Tray)		
	11	Total Jams by Location (2nd Paper Tray)		
	12	Total Jams by Location (3rd Paper Tray)		
	13	Total Jams by Location (4th Paper Tray)		

Mode No.			Function	Settings
Class 1 and 2	Class 3			
7-504*	14	Total Jams by Location (By-pass Feed)	Displays the total copy paper jam counters by location.	
	15 ##	Total Jams by Location (Duplex Tray)		
7-801	1	ROM/CPU Version (IOCSS)	Displays the ROM version. **NOTE:** **Class 3 nos, 3, 7, and 8 are used only for the Japanese version.**	
	2	ROM/CPU Version (BiCU)		
	3	ROM/CPU Version (Edit)		
	4	ROM/CPU Version (Duplex)		
	5	ROM/CPU Version (Fax Control)		
	6	ROM/CPU Version (Printer Control)		
	7	ROM/CPU Version (ANITA)		
	8	ROM/CPU Version (Scanner Control)		
	9	ROM/CPU Version (Stapler)		
7-803*		PM Counter Display	Displays the PM counter after the last PM.	
7-804		PM Counter Reset	Resets the PM counter. *Press down the "Photo mode" key and the # key at the same time to reset the counter.*	**0: No** 1: Yes
7-807		SC/Jam Counter Reset	Resets the SC and jam counters. *Press down the "Photo mode" key and the # key at the same time to reset the counter.*	**0: No** 1: Yes

Mode No.			Function	Settings
Class 1 and 2	**Class 3**			
7-808		Resets Counters (except for the total counter)	Resets the counters except for the following counters: 1. Total counter (SP7-003) 2. PCU counter (SP7-908) 3. Timer counter (SP7-991) *Press down the "Photo mode" key and the # key at the same time to reset the counter.*	**0: No** 1: Yes
7-810		User Code Number Reset	Resets the user code numbers. *Press down the "Photo mode" key and the # key at the same time to reset the counter.*	**0: No** 1: Yes
7-901*		SC History Display	Displays the SC codes that have occurred.	
7-902		SC History Clear	Clears the SC history. *Press down the "Photo mode" key and the # key at the same time to reset the data.*	**0: No** 1: Yes
7-903*		Copy Jam History Display	Displays the copy jams that have occurred.	
7-904		Copy Jam History Clear	Clears the copy jam history. *Press down the "Photo mode" key and the # key at the same time to reset the data.*	**0: No** 1: Yes
7-905*		Original Jam History Display	Displays the original jams that have occurred.	
7-906		Original Jam History Clear	Clears the original jam history. *Press down the "Photo mode" key and the # key at the same time to reset the data.*	**0: No** 1: Yes
7-907		Timer Counter Clear	Clears the timer counter. *Press down the "Photo mode" key and the # key at the same time to reset the counter.*	**0: No** 1: Yes
7-908		PCU Counter Display	Displays the number of copies that have been made using the current PCU.	
7-909		PCU Counter Clear	**Japanese version only** ***Do not use.***	
7-991		Timer Counter Display	Displays the time since the last time that the main switch was turned on.	**0: No** 1: Yes

12.1.1 Input Check (SP5-803)



A224M500.wmf

1. Access SP mode 5-803.
2. Select the number which will access the switch or sensor you wish to check (see the following table).
3. Check the status of the sensor or switch.
4. If you wish to check the signal during a copy cycle, select the required copy modes, then press the Start key. After that, re-enter the SP mode to check the next signal.
5. The reading (“0" or ”1") will be displayed. The meaning of the display is as follows.

Number	Description	Reading	
		0	1
1	Front Door Safety Switch - +24V	Closed	Opened
2	Front Door Safety Switch - LD5V	Closed	Opened
3	Right Vertical Guide Switch	Closed	Opened
4	Left Vertical Door Sensor	Closed	Opened
5	Left Door Sensor	Closed	Opened
6	Fusing Exit Sensor	Paper not detected	Paper detected
7	Upper Exit Sensor	Paper not detected	Paper detected
8	Lower Exit Sensor	Paper not detected	Paper detected
9	Registration Sensor	Paper not detected	Paper detected
10	Upper Relay Sensor	Paper not detected	Paper detected
11	Charge Roller H. P. Sensor	Not home position (Off)	At home position (On)
12	By-pass Feed Paper End Sensor	Paper not detected	Paper detected
13	Upper Tray Paper End Sensor -A193 only-	Paper not detected	Paper detected
14	Lower Tray Paper End Sensor	Paper not detected	Paper detected

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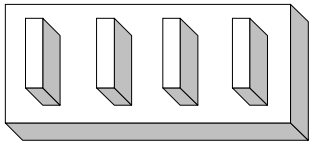
Number	Description	Reading	
		0	1
15	Upper Paper Size Sensor -A193 only-	See Table 1	
16	Lower Paper Size Sensor	See Table 1	
17	Main Motor Lock	Not locked	Locked
18	PCU ensor	PCU not detected	PCU detected
19	Not used		
20			
21			
22			
23	Upper Paper End Sensor (Optional Paper Tray Unit)	Paper not detected	Paper detected
24	Lower Paper End Sensor (Optional Paper Tray Unit)	Paper not detected	Paper detected
25	Upper Relay Sensor (Optional Paper Tray Unit)	Paper not detected	Paper detected
26	Lower Relay Sensor (Optional Paper Tray Unit)	Paper not detected	Paper detected
27	Upper Paper Size Sensor (Optional Paper Tray Unit)	See Table 1	
28	Lower Paper Size Sensor (Optional Paper Tray Unit)	See Table 1	
29	Tray Cover Switch (Optional Paper Tray Unit)	Closed	Opened
30	Paper Tray Unit Set (Optional Paper Tray Unit)	Not connected	Connected
31	Main Motor Lock (Optional Paper Tray Unit)	Not locked	Locked
32	Upper Tray Upper Limit Sensor (Optional Paper Tray Unit)	Paper not at high position	Paper at high position
33	Lower Tray Upper Limit Sensor (Optional Paper Tray Unit)	Paper not at high position	Paper at high position
34	Not used		
35			
36			
37	Duplex Entrance Sensor (Optional Duplex Unit)	Paper not detected	Paper detected
38	Inverter Unit Set (Optional Duplex Unit)	Not connected	Connected
39	Duplex Unit Set (Optional Duplex Unit)	Not connected	Connected
40	Not used		
41			
42			
43	1-bin Vertical Guide Door Switch (Optional 1-bin Sorter)	Closed	Opened
44	1-bin Sorter Unit Set (Optional 1-bin Sorter)	Not connected	Connected
45	1-bin Sorter Paper Sensor	Paper not detected	Paper detected
46	Finisher Set (Optional Finisher Unit)	Not connected	Connected
47	Not used		
48	Feed Cover Open Sensor (Optional ADF and ARDF)	Closed	Opened

Number	Description	Reading	
		0	1
49	Original Set Sensor (Optional ADF and ADRF)	Paper not detected	Paper detected
50	DF Position Sensor (Optional ADF and ARDF)	DF closed	DF opened
51	Registration Sensor (Optional ADF and ARDF)	Paper not detected	Paper detected
52	ADF Set (Optional ADF)	Not connected	Connected
53	Not used		
54			
55			
56	ARDF Set (Optional ARDF)	Not connected	Connected
57	ARDF Reverse Table Sensor (Optional ARDF)	Paper not deteted	Paper detected
58	Not used		
59			
60	Polygonal Mirror Motor Lock	Not locked	Locked
61	Not used		
62	Fusing Unit Set	Not connected	Connected
63	Main Switch	Off	On
64	BiCU Connection	Not connected	Connected
65	Not used		
66	Total Counter Connection	Not connected	Connected
67	Not used		
68	Key Counter Connection	Not connected	Connected
69	Not used		
70	LCIT Set (Optional LCIT)	Not connected	Connected
71	LCIT Unit Set Sensor (Optional LCIT) -A224 only-	LCIT closed	LCIT opened
72	LCIT Cover Sensor (Optional LCIT) -A224 only-	Cover closed	Cover opened
73	LCIT Paper Size Sensor (Optional LCIT) -A224 only-	A4	11" x 8.5"
74	LCIT Upper Limit Sensor (Optional LCIT) -A224 only-	Shift tray not at upper limit position	Shift tray is at upper limit position
75	LCIT Lower Limit Sensor (Optional LCIT) -A224 only-	Shift tray not at lower limit position	Shift tray is at lower limit position
76	LCIT Tray Down Switch (Optional LICT) -A224 only-	Switch is not pressed	Switch is pressed
77	LCIT Paper Near End Level (Optional LCIT) -A224 only-	See Table 2	
78	Not used		
79			

Table 1: Paper Size Data (No. 15, 16, 27, and 28)



A224M502.wmf

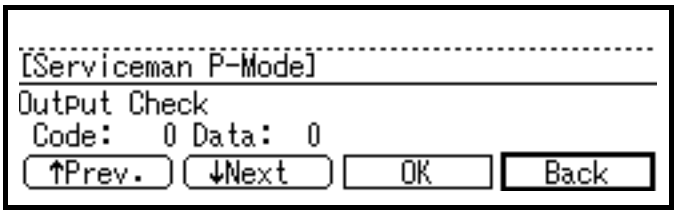
Number	SW 1	SW 2	SW 3	SW 4	SP Value	Paper Size
15,16,27,28	0	0	0	0	0	—-
	0	0	0	1	1	A3, F($8_{1/2}$“ x 13")
	0	0	1	1	3	A4 Sideways
	0	1	0	1	5	A4 Lengthwise
	0	1	1	1	7	A5 Sideways, 11" x 17"
	1	0	1	1	11	B4, $8_{1/2}$“ x 14"
	1	1	0	0	12	* (Asterisk)
	1	1	0	1	13	B5 Sideways, 11" x $8_{1/2}$“
	1	1	1	1	15	B5 Lengthwise, $8_{1/2}$“ x 11"

1: Pushed

Table 2: LCT Paper Near End Level (No.77)

SP value	000	001	025	050	075	100
Level	Paper end	Near-end	25% full	50% full	75% full	Full

12.1.2 Output Check (SP5-804)



A224M501.wmf

CAUTION: To prevent mechanical or electrical damage, do not keep an electrical component on for a long time.

1. Access SP mode 5-804.
2. Select the SP number that corresponds to the component you wish to check (see the following table), then press #.
3. Press "1", then press # to check that component.
4. Exit the SP mode to interrupt the test.
5. If you wish to check another component, re-enter the SP mode.

- Output check table -

No.	Description	No.	Description
1	Junction Gate Solenoid	14	Transport Fan
2	Registration Solenoid	15	Fusing Unit Fan -A224 only-
3	Upper Relay Clutch	16	Not used
4	Lower Relay Clutch	17	
5	Charge Roller Contact Clutch	18	
6	By-pass Feed Clutch	19	Upper Paper Feed Clutch (Optional Paper Tray Unit)
7	Upper Paper Feed Clutch -A193 only-	20	Lower Paper Feed Clutch (Optional Paper Tray Unit)
8	Lower Paper Feed Clutch	21	Upper Relay Clutch (Optional Paper Tray Unit)
9	Development Clutch	22	Lower Relay Clutch (Optional Paper Tray Unit)
10	Toner Bottle Drive Motor	23	Main Motor (Optional Paper Tray Unit)
11	Main Motor (Forward)	24	Upper Paper Lift Motor (Up) (Optional Paper Tray Unit)
12	Main Motor (Reverse)	25	Lower Paper Lift Motor (Up) (Optional Paper Tray Unit)
13	Exhaust Fan	26	Upper Paper Lift Motor (Down) (Optional Paper Tray Unit)

No.	Description	No.	Description
27	Lower Paper Lift Motor (Down) (Optional Paper Tray Unit)	44	Not used
28	Not used	45	
29	Duplex Junction Gate Solenoid (Optional Duplex Unit)	46	ARDF Junction Gate Solenoid (Optional ARDF)
30	Not used	47	ARDF Transport Motor (Foward) (Optional ARDF)
31		48	ARDF Transport Motor (Reverse) (Optional ARDF)
32		49	Not used
33	1-bin Junction Gate Solenoid (Optional 1-bin Sorter)	50	
34	1-bin Transport Motor (Optional 1-bin Sorter)	51	
35	1-bin Paper indicator (Optional 1-bin Sorter)	52	
36	Not used	53	Polygonal Mirror Motor
37		54	Not used
38	DF Feed Motor (Optional ADF and ARDF)	55	LCIT Paper Feed Motor (Optional LCIT)
39	DF Feed Motor (Power Down) (Optional ADF and ARDF)	56	LCIT Transport Motor (Optional LCIT)
40	DF Pick-up Solenoid (Optional ADF and ARDF)	57	LCIT Tray Lift Motor (up) (Optional LCIT)
41	Stamper Solenoid (Optional ADF and ARDF)	58	LCIT Tray Lift Motor (down) (Optional LCIT)
42	DF Paper Feed Clutch (Optional ADF and ARDF)	59	Tray Down LED (Optional LCIT)
43	Not used	60	Not used

13. PREVENTIVE MAINTENANCE SCHEDULE

13.1 PM TABLE

NOTE: The amounts mentioned as the PM interval indicate the number of prints.

Symbol key: C: Clean, R: Replace, L: Lubricate, I: Inspect

A224	EM	100K	200K	300K	NOTE
SCANNER/OPTICS					
Reflector		C	C	C	Optics cloth
1st Mirror		C	C	C	Optics cloth
2nd Mirror		C	C	C	Optics cloth
3rd Mirror		C	C	C	Optics cloth
Scanner Guide Rails		C	C	C	Do not use alcohol.
Platen Sheet Cover	C	I	I	I	Replace the platen sheet, if necessary. Dry cloth or alcohol
Exposure Glass		C	C	C	Dry cloth or alcohol
Toner Shield Glass		C	C	C	Optics cloth
APS Sensor		C	C	C	Dry cloth or alcohol
AROUND THE DRUM					
Transfer Roller		R	R	R	To clean, use a blower brush.
Quenching Lamp		C	C	C	Dry cloth
Discharge Brush		R	R	R	
PAPER FEED					
Registration Roller		C	C	C	Clean with water or alcohol.
Paper Feed Roller (By-pass feed table)	C	C	C	C	Clean with water or alcohol.
Registration Mylar		C	C	C	Clean with water or alcohol.
Relay Rollers		I	I	I	Clean/replace if necessary
Paper Feed Guides		C	C	C	Clean with water or alcohol.
Paper Feed Rollers		R	R	R	
Bottom Plate Pad		C	C	C	Clean with water or alcohol.
Bottom Plate Pad (By-pass feed)		C	C	C	Clean with water or alcohol.
FUSING UNIT					
Fusing Entrance and Exit Guide Plates		C	C	C	Clean with water or alcohol.
Hot Roller		R	R	R	
Pressure Roller		R	R	R	
Fusing Thermistors		I	I	I	Clean if necessary
Cleaning Roller		C	C	C	Clean with water or alcohol.
Cleaning Roller Bushings		C	C	C	Alcohol

A224	EM	100K	200K	300K	NOTE
Hot Roller Strippers		R	R	R	
Cleaning Roller Discharge Brush		R	R	R	
OTHERS					
Drive Belts		I	I	I	Replace if necessary

	EM	200K	400K	600K	800K	NOTE
LCT						
Paper Feed Roller	C	R	R	R	R	Dry or damp cloth
Transport Roller	C					Dry or damp cloth
Bottom plate pad	C					Dry or damp cloth

14. REPLACEMENT AND ADJUSTMENT

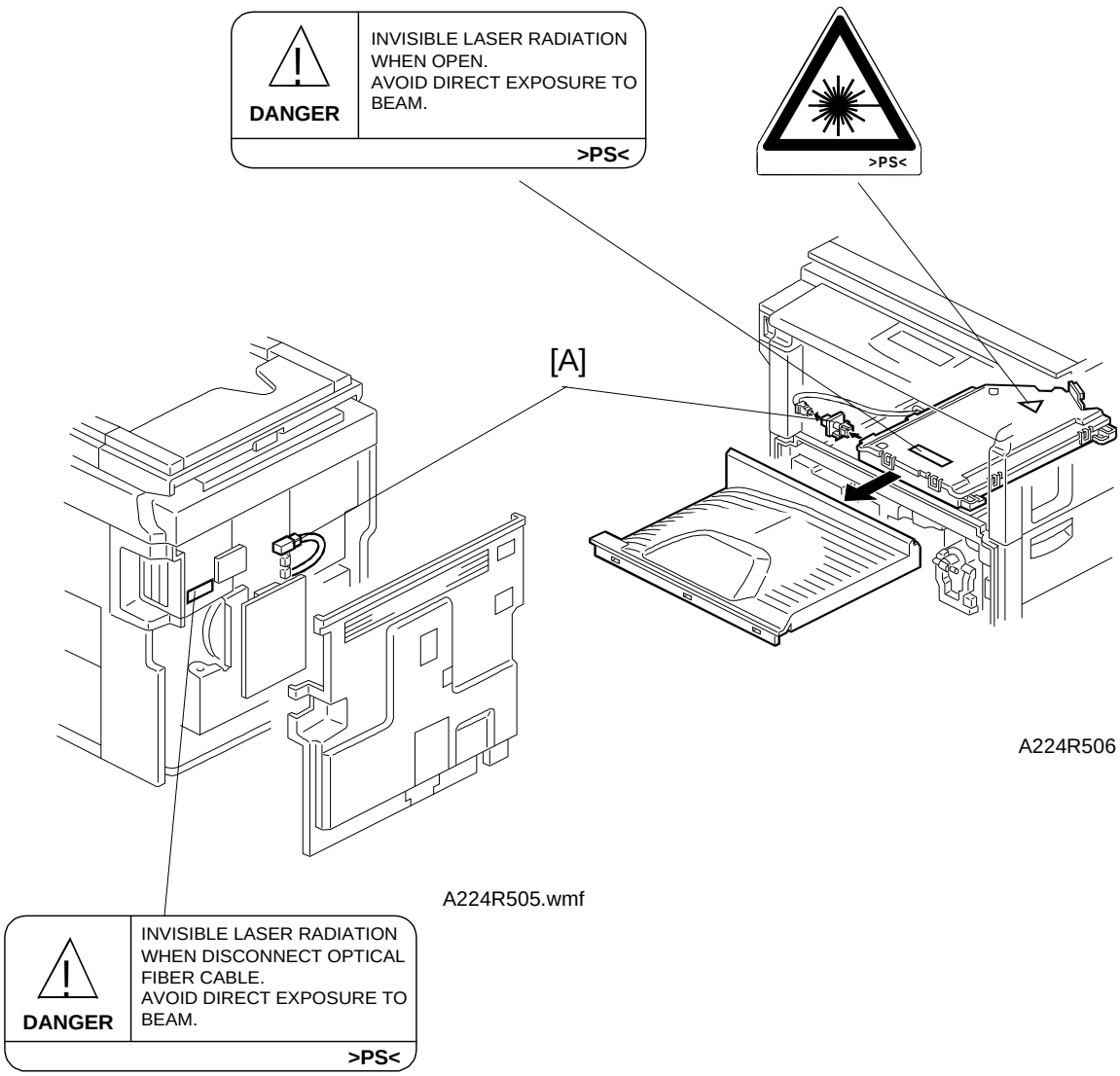
14.1 LASER UNIT

⚠ WARNING

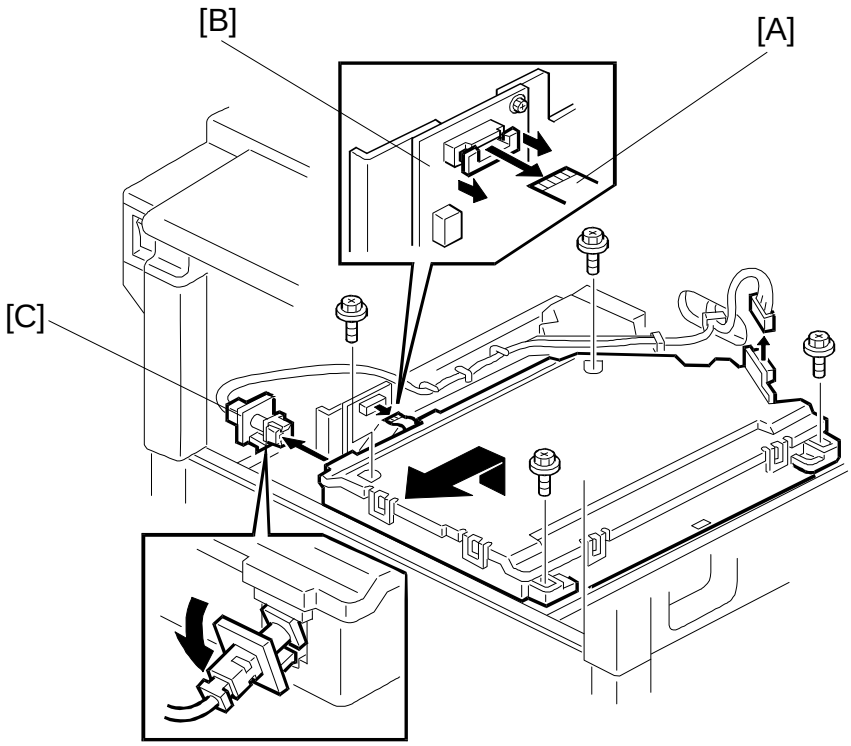
Turn off the main switch and unplug the machine before attempting any of the procedures in this section. Laser beams can seriously damage your eyes.

- CAUTION DECALS -

Three caution decals and the optical fiber cable [A] are located in the laser section as shown below.



14.2 LASER UNIT/MAIN SCAN SYNCHRONIZATION DETECTOR



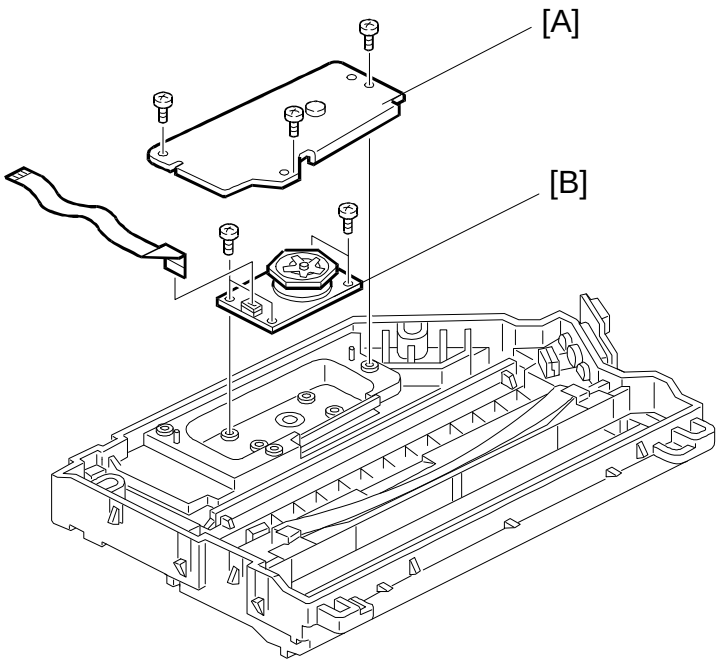
A224R512.wmf

⚠ WARNING

Turn off the main switch and unplug the machine before attempting any of the procedures in this section. Laser beams can seriously damage your eyes.

1. Remove the copy tray.
2. Disconnect the harness [A] from the polygon motor driver [B].
3. Remove the main scan syncronization detector [C].
4. Remove the laser unit (4 screws and 1 connector).

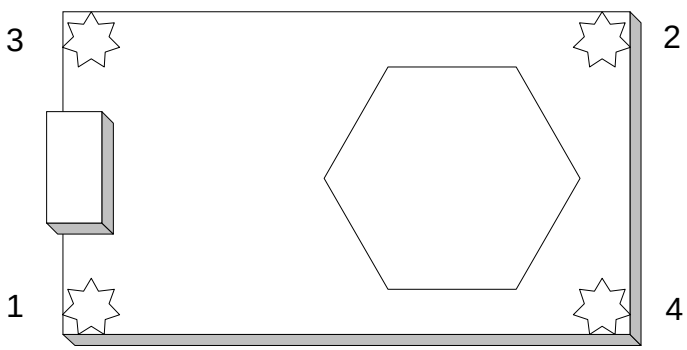
14.3 POLYGON MIRROR MOTOR



A224R501.wmf

1. Remove the laser unit (see Laser Unit/Main Scan Syncronization Detector).
2. Remove the polygon motor cover [A] (3 screws).
3. Remove the polygon motor [B] (4 screws, 1 connector).

NOTE: When reinstalling the polygon motor, the securing order should be as shown below. Otherwise, the polygon motor board may be bent.



A224R510.wmf

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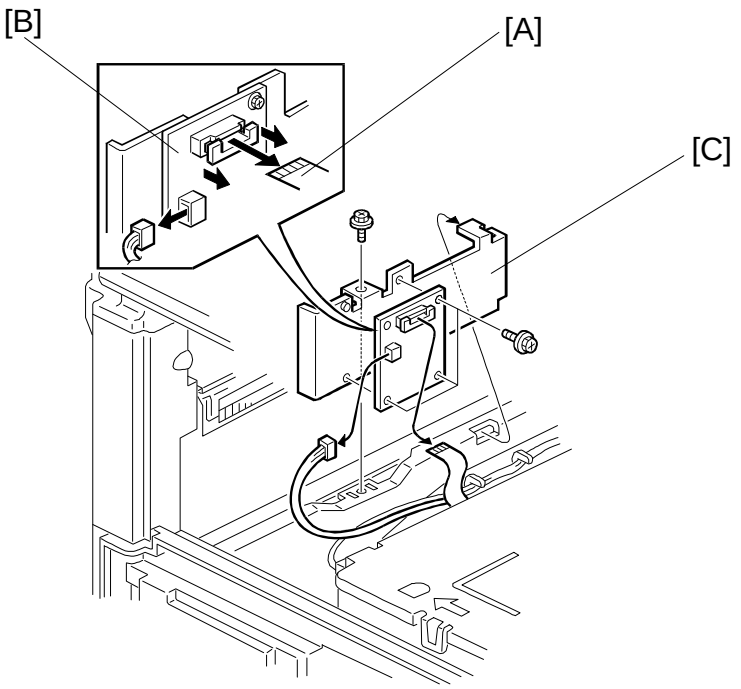
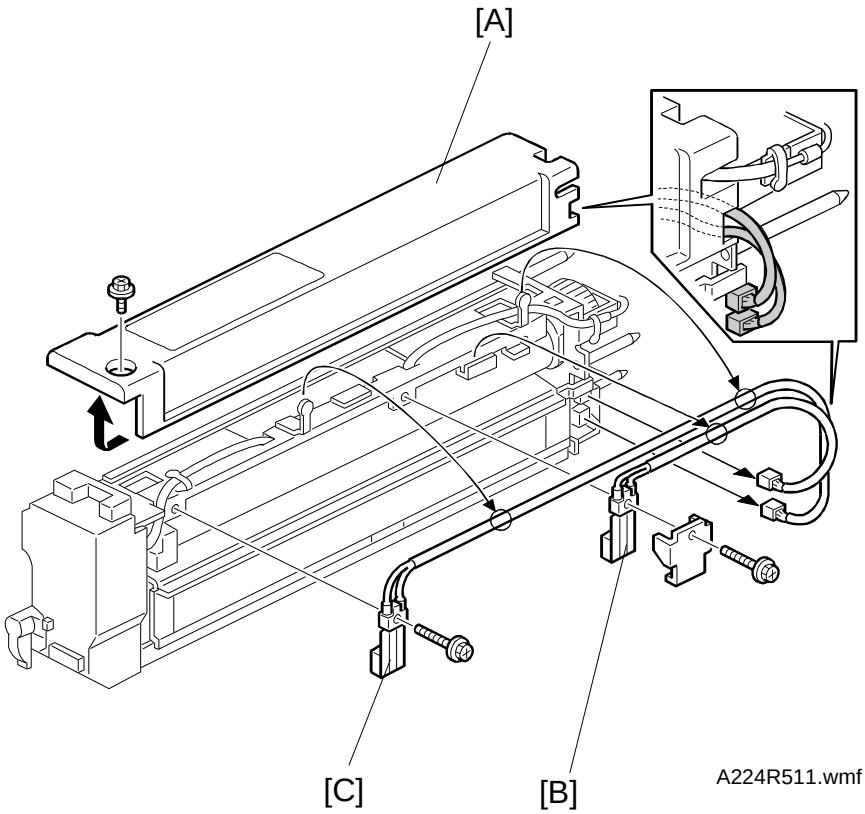
14.4 POLYGON MOTOR DRIVER



A224R502.wmf

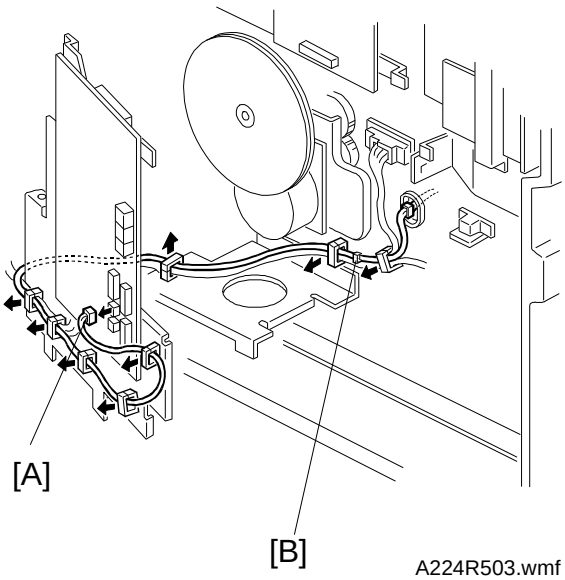
1. Remove the copy tray.
2. Disconnect two harnesses [A] from the polygon motor driver [B].
3. Remove the polygon motor driver bracket [C] (1 screw).
4. Remove the polygon motor driver [B] (3 screws).

14.5 FUSING THERMISTOR/FUSING EDGE THERMISTOR

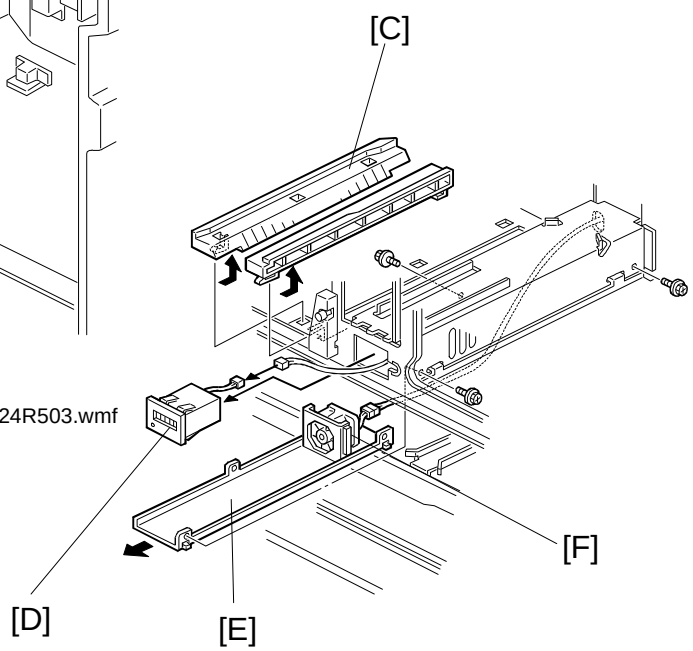


1. Pull out the fusing unit (1 screw).
2. Remove the upper cover [A] (1 screw).
3. Remove the fusing thermistor [B] (1 screw, 1 connector).
4. Remove the fusing edge thermistor [C] (1 screw, 1 connector).

14.6 FUSING UNIT FAN



A224R503.wmf



A224R504.wmf

1. Remove the front cover and rear cover.
2. Remove the PCU, transfer roller unit, fusing unit, duplex inverter unit, duplex unit, paper feed tray, and inner cover.
3. Remove the PSU.
4. Disconnect the fusing unit fan harness [A] and unclamp this harness from the harness clamps.
5. Cut the clamp [B].

   NOTE: Take care not to cut the harnesses.
6. Remove the duplex entrance guide [C].
7. Remove the total counter [D] (1 connector).
8. Remove the fusing unit fan bracket [E] (3 screws).
9. Remove the fusing unit fan [F] (2 screws, 1 connector).

15. SERVICE CALL CONDITIONS

15.1 SUMMARY

There are 3 levels of service call conditions.

Level	Definition
A	To prevent the machine from being damaged, the SC can only be reset by a service representative (see the note below). The copier cannot be operated at all.
B	The SC can be reset by turning the main switch off and on if the SC was caused by a sensor error.
C	The copier can be operated as usual except for the unit related to the service call.

NOTE: 1) If the problem concerns electrical circuit boards, first disconnect then reconnect the connectors before replacing the PCBs.

2) If the problem concerns a motor lock, first check the mechanical load before replacing motors or sensors.

3) To reset a Level A SC, enter SP 5-810 (SC code reset) and select "1". Then hold down the Photo mode key and the # key at the same time for at least 3 seconds (this does not require the main switch to be turned off and on).

4) When a Level A or B SC occurs while in an SP mode, the display does not indicate the SC number. If this occurs, check the SC number after leaving the SP mode.

16. SC CODE DESCRIPTIONS

SC101: Xenon lamp error (A193/A224)

- Definition - [B]

The standard white level was not detected properly when scanning the white plate.

- Possible cause -
- Xenon lamp defective
- Xenon lamp harness defective
- SBU board defective
- SBU harness defective

SC120: Scanner home position error 1 (A193/A224)

-Definition- [B]

The scanner home position sensor does not detect the off condition during initialization or copying.

- Possible causes -
- Scanner home position sensor defective
- Scanner drive motor defective
- IOSCC board defective
- Scanner home position sensor harness defective

SC121: Scanner home position error 2 (A193/A224)

-Definition- [B]

The scanner home position sensor does not detect the on condition during initialization or copying.

- Possible causes -
- Scanner home position sensor defective
- Scanner drive motor defective
- IOCSS board defective
- Scanner home position sensor harness defective

SC122: Scanner home position error 3 (A193/A224)

-Definition- [B]

The scanner home position sensor detects the on condition while the scanner is returning to the home position.

- Possible causes -
- Scanner home position sensor defective
- Scanner drive motor defective
- IOCSS board defective
- Scanner home position sensor harness defective

SC123: Scanner home position error 4 (A193/A224)

-Definition- [B]

The scanner home position sensor does not detect the on condition after the scanner returns to the home position.

- Possible causes -
- Scanner home position sensor defective
- Scanner drive motor defective
- IOCSS board defective
- Scanner home position senor harness defective

SC192: Automatic SBU adjustment error (A193/A224)

-Definition- [B]

An error is detected during automatic SBU adjustment.

- Possible cause -
- SBU defective
- BiCU board defective
- Lamp regulator defective
- Exposure lamp deective
- Dirty white plate

SC302: Charge roller current leak (A193/A224)

-Definition- [B]

A charge roller current leak signal is detected.

- Possible causes -
- Charge roller damaged
- Charge high voltage supply board defective
- Poor connection of the PCU

SC306: Charge roller home position error (A193/A224)

-Definition- [B]

The charge roller home position sensor does not detect the on condition.

- Possible causes -
- Charge roller home position sensor defective
- Charge roller contact clutch defective

SC320: Polygon motor error (A193/A224)

-Definition- [B]

The polygon motor does not reach its operating speed within 10 seconds after the polygon motor on signal, or the lock signal is not detected for more than 40 ms continuously during operation.

- Possible causes -
- Polygon motor defective
- Poor connection of the interface harness which connects the polygon motor driver and the IOCSS board
- IOCSS board defective

SC321: No laser start signal (F-GATE error) (A193/A224)

NOTE: This SC code is only for copy mode.

- Definition- [B]

The CPU does not detect the laser start signal (F-GATE) after the copy paper reaches the registration sensor.

- Possible causes -
- BiCU board defective
- MSU board defective

SC322: Laser synchronization error (A193/A224)

-Definition- [B]

The laser synchronization signal cannot be detected by the main scan synchroniziation detector board for more than 5 consecutive 100 ms intervals.

- Possible causes -
- Poor connection of the interface harness which connects the laser synchronization detector board and the BiCU board
- Laser synchronization detector board out of position
- Laser synchronization detector board defective
- BiCU board defective

SC324: LD drive current over (A193/A224)

-Definition- [B]

The LD drive board applies more than 100 mA to the LD.

- Possible causes -
- LD unit defective (not enough power, due to aging)
- Poor connection of the interface harness which connects the LD unit and the BiCU board
- Temperature around the LD unit is too high

SC390: TD sensor error 1 (A193/A224)

-Definition- [B]

The TD sensor outputs less than 0.5V, 20 s after the TD sensor initial setting has been performed.

- Possible causes -
- TD sensor abnormal
- Poor connection of the PCU

SC391: Development bias leak (A193/A224)

-Definition- [B]

A development bias leak signal is detected.

- Possible causes -
- Poor connection of the PCU
- High voltage supply board defective

SC393: TD sensor error 2 (A193/A224)

-Definition- [B]

TD sensor output voltage falls out of the adjustment range (2.0 ± 0.2 V) after the TD sensor initial setting has been finished.

- Possible causes -
- TD sensor abnormal
- Poor connection of the PCU

SC401: Transfer roller leak error 1 (A193/A224)
SC402: Transfer roller leak error 2 (A193/A224)

-Definition- [B]

A transfer roller current leak signal is detected.

- Possible causes -
- High voltage supply board defective
- Poor connection of the PCU
- Transfer roller damaged

SC411: Separation bias error (A193/A224)

-Definition- [B]

A separation bias leak signal is detected.

- Possible causes -
- High voltage supply board defective
- Poor connection of the PCU
- Discharge brush defective

SC500: Main motor lock (A193/A224)

-Definition- [B]

A main motor lock signal is detected for more than 5 seconds or the lock signal is not detected for more than 500 ms during rotation.

- Possible causes -
- Too much load on the drive mechanism
- Main motor defective

SC503: Upper tray lift motor malfunction (optional paper tray unit only) (A193/A224)
SC504: Lower tray lift motor malfunction (optional paper tray unit only) (A193/A224)

-Definition- [C]

The paper upper limit sensor is not activated after the tray lift motor has been on for 10 seconds.

- Possible causes -
- Upper limit sensor defective
- Tray lift motor defective
- IOCSS board defective

SC506: Paper tray unit main motor lock (optional paper tray unit only) (A193/A224)

-Definition- [C]

A main motor lock signal is detected for more than 5 seconds or the lock signal is not detected for more than 5 seconds during rotation.

- Possible causes -
- Paper tray unit main motor defective
- Too much load on the drive mechanism

SC542: Fusing temperature warm-up error (A193/A224)

-Definition- [A]

The fusing temperature does not reach the fusing standby temperature within 50 seconds after the main switch is turned on.

- Possible causes -
- Fusing thermistor defective or out of position
- Fusing lamp open
- Fusing thermofuse open
- Power supply board defective
- Poor connection of the fusing unit

SC543: Fusing overheat error (A193/A224)

-Definition- [A]

A fusing temperature of over 231°C is detected for 1 second by the fusing thermistor.

- Possible causes -
- Fusing thermistor defective
- Power supply board defective

SC544: Fusing low temperature error (A193/A224)

-Definition- [A]

A fusing temperature of below 100°C is detected for 1 second by the fusing thermistor.

- Possible causes -
- Fusing thermistor defective
- Power supply board defective

SC546: Fusing ready temperature malfunction (A193/A224)

-Definition- [A]

The fusing temperature goes 10 °C below or 10 °C over the stand-by temperature after warm-up is completed.

- Possible causes -
- Thermistor defective
- Poor connection of the fusing unit
- Power supply board defective

SC547: Zero cross signal malfunction (A193/A224)

-Definition- [A]

Zero cross signals are not detected within a certain period.

- Possible causes -
- Power supply board defective
- IOCSS defective
- BICU defective

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SC548: Fusing edge temperature error 1 (A224)

- Definition - [A]

A fusing temperature of over 251°C is detected for 3 seconds by the fusing edge thermistor.

- Possible causes -
- Fusing edge thermistor defective
- PSU defective

SC549: Fusing edge temperature error 2 (A224)

- Definition - [A]

A fusing temperature of below 100°C is detected for 1 second by the fusing edge thermistor.

- Possible causes -
- Fusing edge thermistor defective
- PSU defective
- Poor connenction of the fusing unit

SC610: Communication error between IOCSS and duplex unit (A193/A224)

-Definition- [B]

The IOCSS board cannot communicate with the duplex unit properly.

- Possible causes -
- Poor connection of the duplex unit
- IOCSS board defective
- Duplex control board defective

SC681: Fax option version error (A224)

- Definition - [C]

The machine detected that a A639 fax unit is installed.

- Possible causes -
- Installing an A639 fax unit in an A224 machine.
- Downloading the software for the A639 fax unit to the A224 machine.

SC682: Printer option version error (A224)

- Definition - [C]

The machine detected that a A643 printer controller is installed.

- Possible causes -
- Installing an A643 printer controller in an A224 machine.
- Downloading the software for the A643 printer controller to the A224 machine.

SC691: Communication error between BICU and fax controller (A193/A224)

-Definition- [B]

The BiCU board cannot communicate with the fax controller properly.

- Possible causes -
- Poor connection of the interface harness which connects the BiCU board and the fax controller
- BICU board defective
- Fax controller defective

SC692: Communication error between BiCU and printer controller (A193/A224)

-Definition- [B]

The BICU board cannot communicate with the printer controller properly.

- Possible causes -
- Poor connection of the interface harness which connects the BICU board and the mother board.
- Poor connection between the mother board and the printer controller
- BICU board defective
- Printer controller defective
- Mother board defective

SC696: Communication error between finisher and BiCU board (A193/A224)

- Definition - [B]

The BiCU board cannot communicate with the finisher properly.

- Possible causes -
- Poor connection of the interface cable for the finisher.
- BiCU board defective
- Finisher drive board defective

SC700: Finisher feed out error (A193/A224)

- Defenition - [B]

1. The stack height sensor does not detect the on condition within 12 seconds after the shift tray lift motor is turned on so that the shit tray keeps moving up.
2. The stack height sensor does not detect the off condition within 5 seconds after the shift tray lift motor is turned on so that the shift tray keeps moving down.
3. The shift tray position sensor does not detect the on condition within 1.25 seconds after the shift motor is turned on.

- Possible causes -
- Shift tray lift motor defective
- Shift motor defective
- Finisher drive board defective

SC701: Finisher inverter error (A193/A224)

- Defenition - [B]

1. The jogger H.P sensor does not detect the off condition within 3 seconds after the jogger motor is turned on.
2. The jogger H.P sensor does not detect the on condition within 576 pulses (about 80 mm) after the jogger motor is turned on.
3. The Feed belt H.P sensor does not detect the off condition within 3 seconds after the feed-out motor is turned on.
4. The Feed belt H.P sensor does not detect the on condition within 2059 pulses (about 700 mm) after the feed-out motor is turned on.

- Possible causes -
- Jogger motor defective
- Feed-out motor defective
- Finisher drive board defective

SC702: Finisher staple error (A193/A224)

- Defenition - [B]

The staple home position sensor does not detect the on condition within 0.485 seconds after the staple motor on signal.

- Posible causes -
- Staple motor defective
- Finisher drive board defective

SC900: Total counter error (A193/A224)

-Definition- [C]

The total counter is not working properly.

- Possible causes -
- Total counter defective
- IOCSS board defective

SC920: MSU connection error (A193/A224)

-Definition- [B]

The MSU set signal is not detected

- Possible cause -
- Poor connection between the BICU board and the MSU
- BICU board defective
- MSU defective

SC921: MSU hardware error (A193/A224)

-Definition- [B]

The hardware of the MSU is defective

- Possible cause -
- MSU defective
- BICU defective
- Front door safety switch does not work properly

SC980: Program loading error (A193/A224)

-Definition- [C]

The program cannot load properly.

- Possible cause -
- Poor connection between the BICU and the ROM board
- BICU board defective
- ROM board or the program defective

SC981: NVRAM clear error (A193/A224)

-Definition- [C]

The data stored in the NVRAM is not cleared properly when the Memory All Clear is performed.

- Possible cause -
- NVRAM defective

SC990: Communication error between BICU and IOCSS board (A193/A224)

-Definition- [B]

The BiCU board cannot communicate with the IOCSS board properly.

- Possible cause -
- Poor connection between the BiCU board and the IOCSS board
- BiCU board defective
- IOCSS board defective

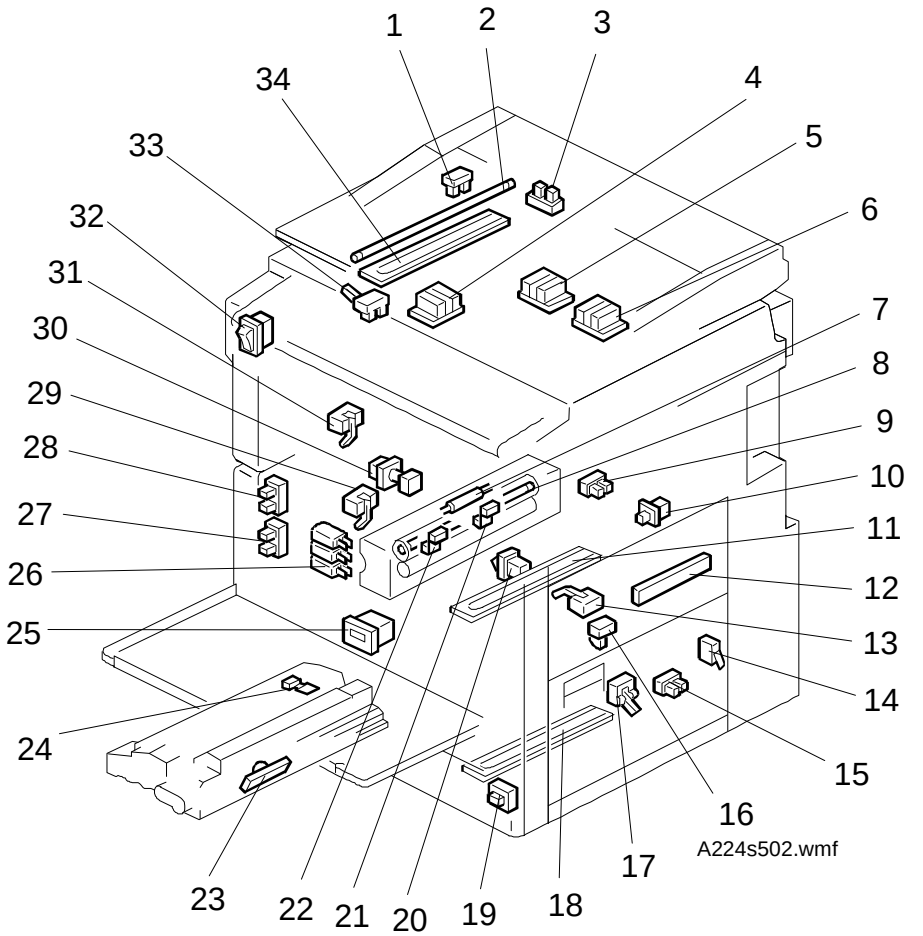
SC999: Program version error (A193/A224)

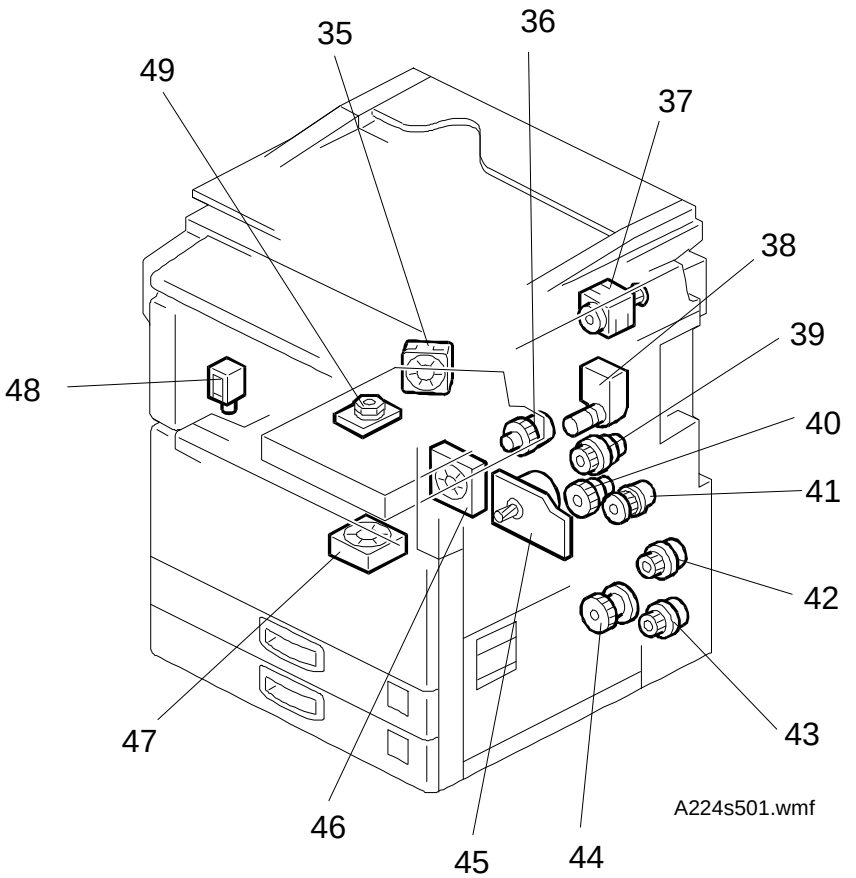
- Definition - [C]

Downloading the incorrect type of main software

- Possible cases -
- Downloading the main software for the A224 machine to the A193 machine or the opposite case.

ELECTRICAL COMPONENT LAYOUT
Copier (A224)

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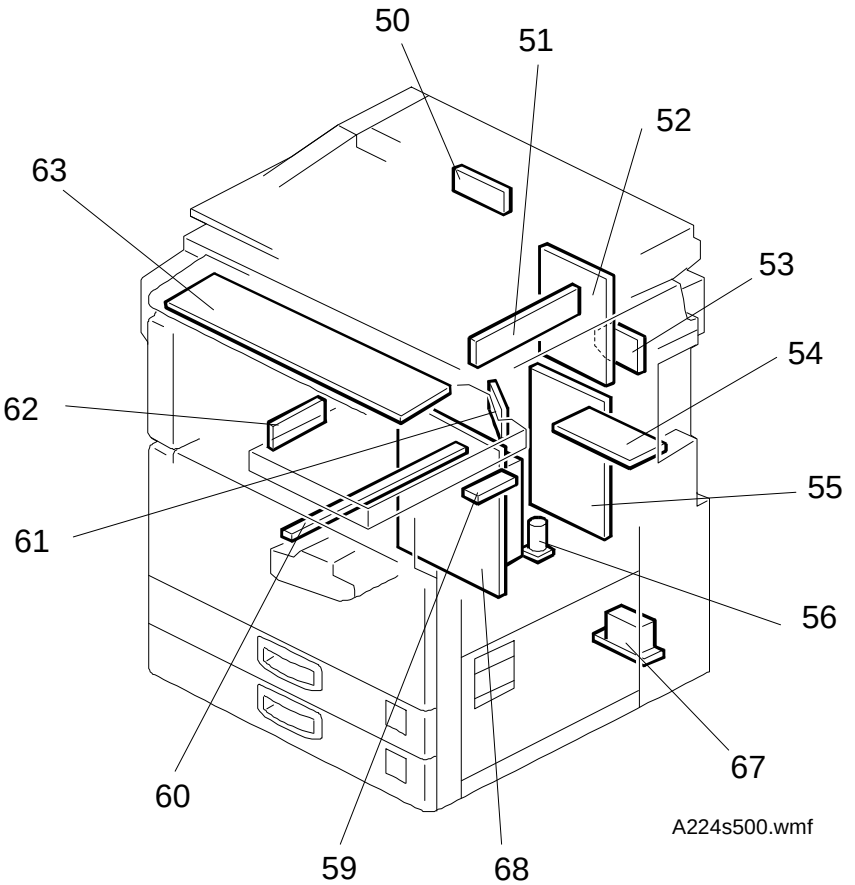
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A224s500.wmf

Copier

Symbol	Index No.	Description	P to P (2/2)
Printed Circuit Boards			
PCB1	54	High Voltage Supply Board	K17
PCB2	50	Lamp Stabilizer	M16
PCB3	58	PSU	C7
PCB4	61	LD Unit	E5
PCB5	63	Operation Panel	F1
PCB6	51	SBU	H1
PCB7	55	IOCSS	I14
PCB8	52	BICU	H12
PCB9	53	MSU	I6
PCB10	62	Polygon Motor Driver (A224 only)	E3
Motors			
M1	45	Main	I17
M2	37	Scanner Drive	N17
M3	47	Transport Vacuum Fan	O17
M4	49	Polygonal Mirror	D4
M5	38	Toner Supply	F17
M6	35	Exhaust Fan	D17
M7	46	Fusing Unit Fan (A224 only)	P11
Sensors			
S1	33	Upper Exit	B17
S2	31	Lower Exit	B17
S3	28	Left Vertical Door	B17
S4	27	Left Door	C17
S5	17	Relay	C17
S6	10	PCU	C17
S7	29	Fusing Exit	D17
S8	9	Charge Roller H.P	D17
S9	—-	Upper Tray Paper End (A193 only)	E17
S10	15	Lower Tray Paper End	E17
S11	16	By-pass Feed Paper End	F17
S12	13	Registration	G17
S13	12	By-pass Feed Paper Width	G17
S14	59	Humidity	C11
S15	4	Original Width	L17
S16	5	Original Length-1	L17
S17	6	Original Length-2	L17
S18	3	Platen Cover	M17
S19	1	Scanner H.P.	M17
S20	23	Toner Density (TD)	H17
Switches			
SW1	20	AC	B6

Symbol	Index No.	Description	P to P (2/2)
SW2	32	Main	D2
SW3	14	Right Vertical Guide	H17
SW4	—-	Upper Paper Size (A193 only)	N17
SW5	19	Lower Paper Size	O17
SW6	26	Front Door Safety	D11
Magnetic Clutches			
MC1	36	Charge Roller Contact	E17
MC2	42	Upper Relay	E17
MC3	43	Lower Relay	I17
MC4	41	By-pass Feed	F17
MC5	—-	Upper Paper Feed (A193 only)	I17
MC6	44	Lower Paper Feed	I17
MC7	40	Registration	F17
MC8	39	Development	J17
Solenoids			
SOL1	48	Junction Gate	B17
Lamps			
L1	60	Quenching	E17
L2	2	Scanner	M17
L3	8	Fusing	B7
Heaters			
H1	18	Tray (option)	C3
H2	34	Anti-condensation (option)	C3
H3	11	Drum (option)	C3
Thermistors			
TH1	24	Charge Roller	H17
TH2	21	Fusing	B6
TH3	22	Fusing Edge (A224 only)	B6
Thermofuses			
TF1	7	Fusing	B7
Counters			
CO1	25	Total	I17
CO2	—-	Key (option)	G17
Others			
LSD1	30	Laser Synchronization Detector	D4
NF	56	Noise Filter (230V machine only)	C10
CB	57	Circuit Breaker (230V machine only)	B8

A193 and A224 Point to Point Diagram (1/2)

(Ver. 2)

Duplex Unit (Option for A193)

Duplex Entrance Sensor S1
Duplex Junction Gate Sol SOL1
Duplex Transport Motor M1
Duplex Feed Motor M2
Duplex Control Board (PCB1)
Duplex Turn Sensor S2
Duplex Exit Sensor S3
CN161, CN162, CN240, CN241, CN242, CN243

AC SW (SW1)
Thermistor (TH2)
Fusing Lamp (L3)
Thermofuse (TF1)
Circuit Breaker (230V machine only) (CF1)
CN282, CN284, CN287, T281, T280

Tray Heater (Option) H1
Anti-condensation Heater (Option) H2
CN285

PSU(PCB3)

CN280 Noise Filter (230V machine only) (NF 1)
CN288, CN283, CN290, CN289, CN281, CN286

Humidity Sensor S14 — CN109, CN170

Front Door Safety SW (SW6) — CN120

Laser Syncronization Detector (LSD)
Polygonal Mirror Motor M4
Main Switch (SW2)

LD Unit (PCB4)

CN306, CN307, CN305

CN134, CN113, CN123

CN309 Operation Panel (PCB5)
GND, OPDATA [π5], GND, OPCLK, -12V, /BEEP [π5], +5V, +5V, /OP-KEY [π5], /OP-LED, +5VE, +5VE

SBU (PCB6) — CN301

<CN301> (SBU)

PIN	NAME	PIN	NAME
1	< /OPBSYNC	26	< AD0
2	/RDSYNC >	27	GND
3	GND	28	AGC0 >
4	/CLK 0 >	29	AGC1 >
5	GND	30	GND
6	/WTGT >	31	AGC2 >
7	/PWIND >	32	AGC3 >
8	/AEMODE >	33	GND
9	GND	34	+12
10	DAD1 >	35	+12
11	GND	36	+12
12	DACLK >	37	+12
13	GND	38	+12
14	DALD >	39	+12
15	GND	40	GND
16	< AD7	41	-12V
17	< AD6	42	-12V
18	GND	43	-12V
19	< AD5	44	GND
20	< AD4	45	+5V
21	GND	46	+5V
22	< AD3	47	+5V
23	< AD2	48	+5V
24	GND	49	+5V
25	< AD1	50	+5V

<CN311> (BICU - ROM Board)

PIN	NAME	PIN	NAME	PIN	NAME	PIN	NAME
1	GND	21	A12 >	41	< D14 >	61	</SLEEP
2	< D3 >	22	A7 >	42	< D15 >	62	NC
3	< D4 >	23	A6 >	43	/CE2 >	63	NC
4	< D5 >	24	A5 >	44	NC	64	NC
5	< D6 >	25	A4 >	45	NC	65	< D8 >
6	< D7 >	26	A3 >	46	NC	66	< D9 >
7	/CE1 >	27	A2 >	47	A17 >	67	< D10 >
8	A10 >	28	A1 >	48	A18 >	68	NC
9	/OE >	29	A0 >	49	A19 >	69	GND
10	A11 >	30	< D0 >	50	A20 >	70	GND
11	A9 >	31	< D1 >	51	A21 >		
12	A8 >	32	< D2 >	52	+5V		
13	A13 >	33	NC	53	VPP2		
14	A14 >	34	GND	54	A22 >		
15	/WE >	35	GND	55	A23 >		
16	/BSY >	36	GND	56	< /WP		
17	+5V	37	NC	57	</BYTE		
18	VPP1	38	< D11 >	58	NC		
19	A16 >	39	< D12 >	59	NC		
20	A15 >	40	< D13 >	60	</EXCARD		

<CN308> (BICU - IOCSS)

PIN	NAME	PIN	NAME	PIN	NAME	PIN	NAME
1	-12V	21	< FUTMP	41	+12V	61	GND
2	-12V	22	< PP-C	42	BDTCT	62	< CHTMP
3	+5VE	23	< PP-B	43	+12V	63	GND
4	+5VS	24	< HUM	44	+5V	64	< PP-TP
5	S1 >	25	< PP-D	45	+5V	65	GND
6	S3 >	26	GND	46	S2 >	66	< TSENS
7	A0 >	27	GND	47	+5V	67	GND
8	A2 >	28	MA1 >	48	A1 >	68	GND
9	A3 >	29	MA2 >	49	+5V	69	GND
10	< D9 >	30	MA4 >	50	< D8 >	70	MA3 >
11	< D10 >	31	MA5 >	51	+5V	71	GND
12	< D12 >	32	MA7 >	52	< D11 >	72	MA6 >
13	< D13 >	33	MA8 >	53	+5V	73	GND
14	< D15 >	34	MA10 >	54	< D14 >	74	MA9 >
15	/RD >	35	MB1 >	55	+5V	75	GND
16	/RST, 10B>	36	MB2 >	56	/HWR >	76	GND
17	< /INT 1	37	MB3 >	57	+5V	77	GND
18	CLKP >	38	MB4 >	58	< /INT2	78	+24V
19	GND	39	/RTRG >	59	GND	79	+24V
20	GND	40	< SN-ON	60	GND	80	BDTCT

BICU (PCB8)

CN308, CN130

CN310, CN304, CN303

MSU(PCB9)

<CN303> (BICU - MSU)

PIN	NAME	PIN	NAME
1	GND	31	GND
2	GND	32	GND
3	/MWCLK >	33	GND
4	/MWLGT >	34	GND
5	/MWLSYC >	35	/MWFGT >
6	MOD >	36	GND
7	GND	37	GND
8	< /MRCLK	38	GND
9	< /MRLGT	39	/WRSYNC >
10	< /MRLSYC	40	< /MRFGT
11	< MID	41	GND
12	GND	42	GND
13	A7(N.C)	43	A6(N.C)
14	A5(N.C)	44	A4 >
15	A3 >	45	A2 >
16	A1 >	46	A0 >
17	GND	47	GND
18	< D15 >	48	< D14 >
19	< D13 >	49	< D12 >
20	< D11 >	50	< D10 >
21	< D9 >	51	< D8 >
22	/RD >	52	/HWR >
23	CS50 >	53	/CS51 >
24	/RESET >	54	< /MDTCT
25	GND	55	GND
26	+5V	56	+5V
27	+5V	57	+5V
28	+5V	58	+5V
29	GND	59	GND
30	GND	60	GND

<CN310> (BICU-Mother Board)

PIN	NAME	PIN	NAME
1	GND	11	GND
2	< /VIDEO	12	TXD 2 >
3	GND	13	< RXD 2
4	/FGATE >	14	GND
5	/CE 2 >	15	TXD 3 >
6	/CE 3 >	16	< RXD 3
7	N.C.	17	GND
8	GND	18	/BD >
9	/RTS >	19	N.C.
10	< /CTS	20	/WRSYNC >

E +5V, F GND

Mother Board

CN1, CN304

Printer Controller (Op)
See 2/2

Fax Unit (Op)
See 2/2

CN150: +5V, GND

Paper Tray Unit Option — CN101

ADF (Option) — CN105

ARDF (Option)

PSU (PCB3) — CN289

Finisher (Option) — CN137-5-11

LCT (Option for A224) — CN163, CN164

IOCSS (PCB7)

CN157: -14 /TRG [↓24] SOL1 Junction Gate C1; -13 24V; -12 +5V; -11 Exit 1 [5] S1 Upper Exit Sensor; -10 GND; -9 +5V; -8 Exit 2 [5] S2 Lower Exit Sensor; -7 GND; -6 +5V; -5 DOOR1 [5] S3 Left Vertical Door Sensor; -4 GND; -3 +5V; -2 DOOR2 [5] S4 Left Door Sensor; -1 GND

CN104: -1 GND; -2 /TRANS [5] S5 Relay Sensor; -3 +5V; -3 Fusing Unit Set [5] A; CN126: -1 FTMP [A] B; -2 GND C; -4 GND D

CN151: -1 /NEW [π5] S6 PCU Sensor; -2 GND; -3 24V; -4 /TRG [↓24] M6 Exhaust Fan; -5 GND; -6 EXIT 3 [π5] S7 Fusing Exit Sensor; -7 +5V; -8 GND; -9 CONT [π5] S8 Charge Roller H.P Sensor; -10 +5V; -11 24V

-12 /TRG [↓24] MC1 Charge Roller Contact Cl; 13 24V; 14 /TRG [↓24] L1 Quenching Lamp

CN103: -1 GND; -2 F1PE [π5] S9 Upper Tray Paper End Sensor(A193 only); 3 +5V; -4 GND; -5 F2PE [π5] S10 Lower Tray Paper End Sensor; -6 +5V; -7 24V.S2

CN111, CN118, CN116: -2 /TRG [↓24] MC2 Upper Relay Cl; -1 24V; -2 /TRG [↓24] MC7 Registration Cl; -1 24V; -2 /TRG [↓24] MC4 By-pass Feed Cl; -1 /TRG [24] M5 Toner Supply Motor

CN119: -2 24V.S; -3 GND; -4 /M.PE [5] S11 By-pass Feed Paper End Sensor; -5 +5V; -6 /RGST [5] S12 Registration Sensor; -7 GND

CN122: -1 /MPS1 [π5]; -2 /MPS2 [π5]; -3 /MPS3 [π5]; -4 /MPS4 [π5] S13 By-pass Feed Paper Width Sensor; -5 GND

CN137: -1 /TRG [↓24] C02 Key Counter (Op); -2 24V; -3 CNTOK [π5]; -4 GND

CN112: -1 24V; -2 24V.S2 Right Vertical Guide SW (SW3)

CN125: -1 GND; -2 VTH [A] TH1 Charge Roller Thermistor; -3 TSENS [A]; -4 +5V; -5 CONTL [σ5] S20 TD Sensor

CN110: -1 24V; -2 /TRG [↓24] MC5 Upper Paper Feed Cl (A193 only)

CN108: -1 24V.S2; -2 /TRG [↓24] MC3 Lower Relay Cl

CN107: -1 24V; -2 /TRG [↓24] MC6 Lower Paper Feed Cl

CN160: -1 24V; -2 /TRG [↓24] CO1 Total Counter

CN117: -1 24V; -2 /TRG [↓24] MC8 Development Cl

CN121: -1 Direction [σ5]; -2 Motor Start [π5]; -3 +5V; -4 Motor Ready [π5]; -5 24VS; -6 24VS; -7 GND; -8 GND; -9 +5V; -10 GND M1 Main Motor

CN124: -1 Charge Roller [σ5]; -2 Development [σ5]; -3 F.B.C [A]; -4 F.B.B [A]; -5 Trans.Roller (+) [σ5]; -6 Trans.Roller (-) [σ5]; -7 F.B.T [A]; -8 Discharge [σ5]; -9 F.B.D [A]; -10 24V.S; -11 +5V; -12 GND PCB1 High Voltage Supply Board

CN131: -1 GND; -2 /F1 [π5]; -3 /F2 [π5]; -4 +5V; -5 /ON [π5] S16 Original Length Sensor 1 (230V machine only)

CN132: -A1 GND; -A2 /L1 [π5]; -A3 /L2 [π5]; -A4 +5V; -A5 /ON [π5] S17 Original Length Sensor 2; -A6 GND; -A7 /W1 [π5]; -A8 /W2 [π5]; -A9 +5V; -A10 /ON [π5] S15 Original Width Sensor; -B2 /ON; -B3 GND; -B4 /TRG [π5] PCB2 L2 Scanner Lamp; Lamp Stabilizer; -B5 GND; -B6 AKS0 [π5] S18 Platen Cover Sensor; -B7 +5V; -B8 GND; -B9 HPS [σ5] S19 Scanner H.P Sensor; -B10 +5V

CN150: -1 +24V; -2 +24V; -3 A [↓24]; -4 /A [↓24]; -5 B [↓24]; -6 /B [↓24] M2 Scanner Drive Motor

CN102: -1 PS4 [π5]; -2 PS3 [π5]; -3 GND; -4 PS2 [π5]; -5 PS1 [π5]; -6 PS4 [π5]; -7 PS3 [π5]; -8 GND; -9 PS2 [π5]; -10 PS1 [π5] SW4 Upper Paper Size Sensor (A193 only); SW5 Lower Paper Size Sensor

CN106: -1 24V; -2 /TRG [↓24] M3 Transport Vacuum Fan

CN153: -1 Junction Gate Sol [π5]; -2 Motor Speed [σ5]; -3 Motor Start [π5]; -4 Paper Indicator1 [π5]; -5 Paper Indicator2 [π5]; -6 Paper Detect [σ5]; -7 DOOR SW [σ5]; -8 Sorter Set [π5]; -9 24V; -10 24V; -11 GND; -12 GND; -13 5V; -14 GND

1bin Sortor Drive Board (PCB1)

Sorter Transport Motor M1
Sorter Paper Indicator (PCB2) PCB2
Sorter Vertical Guide Door SW (SW1)
Sorter Junction Gate Sol SOL1
Sorter Pape Sensor S1

1 bin Sorter (Op)

Signal Table

━━━	AC Line
───	DC Line
- - - - -	Pulse Signal
< >	Signal Direction
	Active High
	Active Low
[ ]	Voltage
[A]	Analog Signal

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A193 and A224 Point to Point Diagram (2/2)

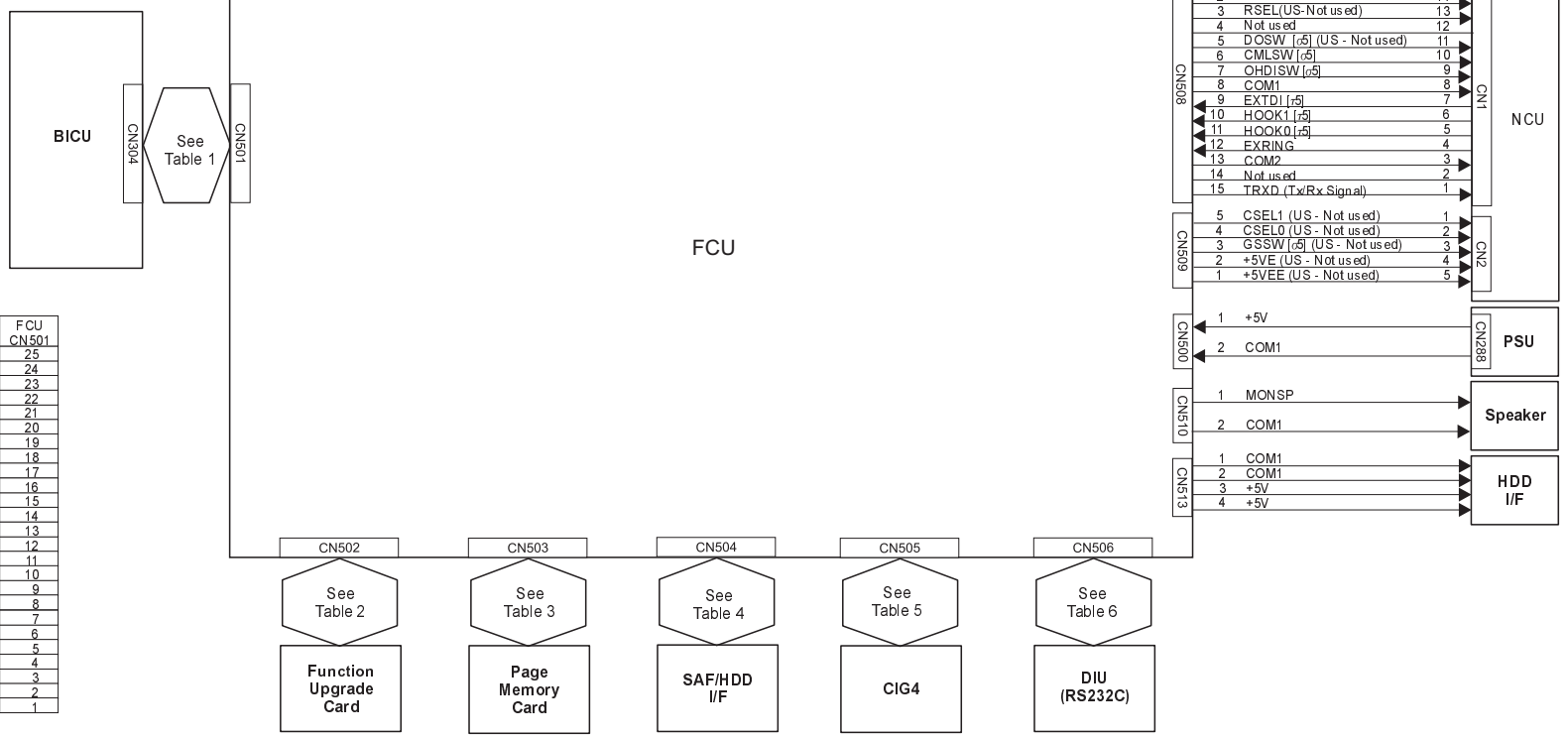

Table 1 (BICU - FCU)

BICU CN304	NAME	FCU CN501	BICU CN304	NAME	FCU CN501
1	+24V	50	26	GND	25
2	+24V	49	27	< /ARLGT	24
3	+12V	48	28	< /ARLSYC	23
4	-12V	47	29	< /ARFGT	22
5	TXD 1 >	46	30	/WRSYNC >	21
6	< RXD 2	45	31	/FSYNC >	20
7	GND	44	32	GND	19
8	/AWCLK >	43	33	< /ARKS 0	18
9	GND	42	34	< /ARKS 1	17
10	/AWLGT >	41	35	< /ARKS 2	16
11	/AWLSYC >	40	36	< /ARKS 3	15
12	/AWFGT >	39	37	< /ARKS 4	14
13	GND	38	38	< /ARKS 5	13
14	/AWKS 0 >	37	39	< /ARKS 6	12
15	/AWKS 1 >	36	40	< /ARKS 7	11
16	/AWKD 0 >	35	41	/OE 1 >	10
17	/AWKD 1 >	34	42	GND	9
18	/AWKD 2 >	33	43	< /OP-LED	8
19	/AWKD 3 >	32	44	< /RTRG	7
20	/AWKD 4 >	31	45	/OP-KEY >	6
21	/AWKD 5 >	30	46	/SW-ON >	5
22	/AWKD 6 >	29	47	/SN-ON >	4
23	/AWKD 7 >	28	48	< EX-FCU	3
24	GND	27	49	+5VE	2
25	< /ARCLK	26	50	+5VE	1

Table 2 (Function Upgrade Card - FCU)

FCU CN502	NAME	FCU CN502	NAME
1	COM1	35	COM1
2	< CPD 3 >	36	< CD1
3	< CPD 4 >	37	< CPD 11 >
4	< CPD 5 >	38	< CPD 12 >
5	< CPD 6 >	39	< CPD 13 >
6	< CPD 7 >	40	< CPD 14 >
7	/CROMCSO >	41	< CPD 15 >
8	CPA 10 >	42	/CRAMCSO >
9	/MRD >	43	N.C
10	CPA 11 >	44	< /FROMCS >
11	CPA 9 >	45	N.C
12	CPA 8 >	46	CPA 17 >
13	CPA 13 >	47	CPA 18 >
14	CPA 14 >	48	CPA 19 >
15	/MWRL >	49	CPA 20 >
16	< BSY	50	< RAMCS
17	+5V	51	+5V
18	+12VP	52	+12VP
19	CPA 16 >	53	N.C
20	CPA 15 >	54	N.C
21	CPA 12 >	55	< /WP
22	CPA 7 >	56	< /BYTE
23	CPA 6 >	57	N.C
24	CPA 5 >	58	/MWRH >
25	CPA 4 >	59	/EXCARD >
26	CPA 3 >	60	< /SLEEP
27	CPA 2 >	61	/VPCNT0 >
28	CPA 1 >	62	< /VPCNT1
29	CPA 0 >	63	< /CSCNT
30	< CPD 0 >	64	< CPD 8 >
31	< CPD 1 >	65	< CPD 9 >
32	< CPD 2 >	66	< CPD 10 >
33	RTCCS >	67	< CD2
34	COM1	68	COM1

Table 3 (Page Memory Card - FCU)

FCU CN503	NAME	FCU CN503	NAME
1	COM1	35	COM1
2	< DMD 3 >	36	< CD1
3	< DMD 4 >	37	< DMD 11 >
4	< DMD 5 >	38	< DMD 12 >
5	< DMD 6 >	39	< DMD 13 >
6	< DMD 7 >	40	< DMD 14 >
7	/RAS 4 >	41	< DMD 15 >
8	N.C	42	/RAS5 >
9	/DMRD >	43	N.C
10	N.C	44	N.C
11	DMA 9 >	45	N.C
12	DMA 8 >	46	N.C
13	N.C	47	N.C
14	N.C	48	N.C
15	/DMWR >	49	N.C
16	N.C	50	N.C
17	+5V	51	+5V
18	N.C	52	N.C
19	N.C	53	N.C
20	N.C	54	N.C
21	N.C	55	/DCAS 1 >
22	DMA 7 >	56	/DCAS 0 >
23	DMA 6 >	57	N.C
24	DMA 5 >	58	N.C
25	DMA 4 >	59	N.C
26	DMA 3 >	60	N.C
27	DMA 2 >	61	N.C
28	DMA 1 >	62	N.C
29	DMA 0 >	63	N.C
30	< DMD 0 >	64	< DMD 8 >
31	< DMD 1 >	65	< DMD 9 >
32	< DMD 2 >	66	< DMD 10 >
33	N.C	67	< CD 2
34	COM 1	68	COM 1

Table 4 (SAF/HDD interface - FCU)

FCU CN504	NAME	FCU CN504	NAME
1	COM 1	45	COM 1
2	< CPD 0 >	46	< CPD 1 >
3	< CPD 2 >	47	< CPD 3 >
4	< CPD 4 >	48	< CPD 5 >
5	< CPD 6 >	49	< CPD 7 >
6	< CPD 8 >	50	< CPD 9 >
7	< CPD 10 >	51	< CPD 11 >
8	< CPD 12 >	52	< CPD 13 >
9	+5V	53	< CPD 14 >
10	< CPD 10 >	54	/MRD >
11	< DMD 15 >	55	/MWRH >
12	/MWRL >	56	COM 1
13	CPA 1 >	57	CPA 2 >
14	CPA 3 >	58	CPA 4 >
15	+5V	59	CPA 5 >
16	CPA 6 >	60	CPA 7 >
17	< DMD 14 >	61	CPA 8 >
18	CPA 9 >	62	CPA 10 >
19	CPA 11 >	63	COM 1
20	CPA 12 >	64	CPA 13 >
21	CPA 14 >	65	CPA 15 >
22	/FROMCS >	66	/SRAMCS >
23	RTCCS >	67	< /INTHDD
24	+12V	68	< DMD 0 >
25	DMD 13 >	69	< DMD 1 >
26	< DMD 2 >	70	< DMD 3 >
27	< /EXCARD	71	< DMD 4 >
28	< DMD 5 >	72	< DMD 6 >
29	< DMD 7 >	73	COM 1
30	< DMD 8 >	74	< DMD 9 >
31	< DMD 10 >	75	< DMD 11 >
32	+5VD	76	/RAS 0 >
33	/CAS0 >	77	/CAS 1 >
34	/DMMRD >	78	/DMMWR >
35	< DMD 12 >	79	/HDCS >
36	/DMIORD >	80	/RESET >
37	+5V	81	/DMIOWR >
38	DMA 1 >	82	DMA 2 >
39	DMA 3 >	83	DMA 4 >
40	DMA 5 >	84	DMA 6 >
41	DMA 7 >	85	DMA 8 >
42	DMA 9 >	86	DMA 10 >
43	HDDACK >	87	DMA 11 >
44	COM 1	88	COM 1

Table 5 (CIG4 - FCU)

FCU CN505	NAME	FCU CN505	NAME
1	VTXMD >	21	CPA 3 >
2	< VRXMDM	22	CPA 2 >
3	COM3	23	CPA 1 >
4	-12V	24	CPA 0 >
5	/G4CS >	25	COM 3
6	/RESET >	26	< CPD 7 >
7	COM3	27	< CPD 6 >
8	< /INTG4	28	< CPD 5 >
9	< /CWAIT	29	< CPD 4 >
10	/CODCCS >	30	< CPD 3 >
11	CPA 14 >	31	< CPD 2 >
12	CPA 13 >	32	< CPD 1 >
13	CPA 12 >	33	< CPD 0 >
14	CPA 10 >	34	/MWRL >
15	CPA 9 >	35	N.C
16	CPA 8 >	36	/MRD >
17	CPA 7 >	37	COM 3
18	CPA 6 >	38	+24V
19	CPA 5 >	39	COM 3
20	CPA 4 >	40	+24V

Table 6 (DIU (RS232C) - FCU)

FCU CN506	NAME	FCU CN506	NAME
1	< CPD 0 >	13	< CPD 6 >
2	< CPA 0 >	14	/IOWR >
3	< CPD 1 >	15	< CPD 7 >
4	< CPA 1 >	16	/RST232 >
5	< CPD 2 >	17	< IOIT2
6	< CPA 2 >	18	/R232CS >
7	< CPD 3 >	19	N.C
8	< CPA 3 >	20	N.C
9	< CPD 4 >	21	+5V
10	N.C	22	N.C
11	< CPD 5 >	23	COM 1
12	/IORD >	24	N.C

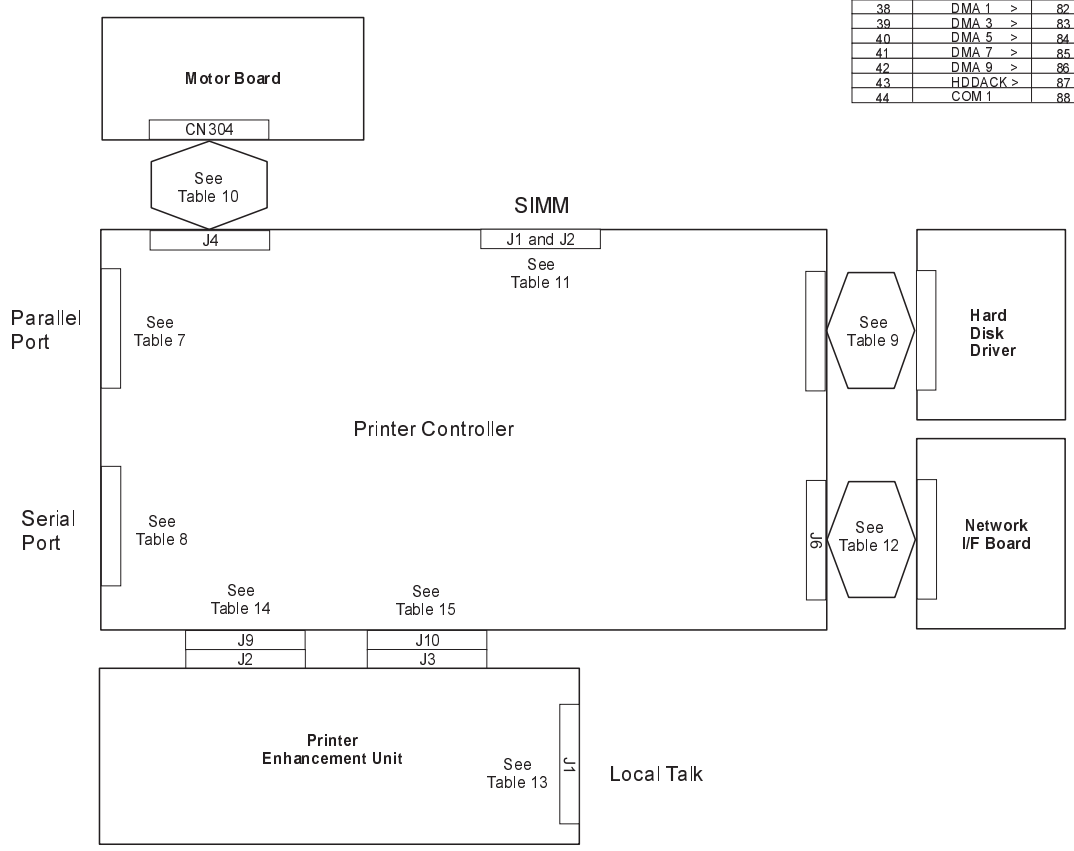

Table 7 (Parallel Porl - Printer Controller)

PIN	NAME
1	< /STROBE
2	< DATA BIT 0 >
3	< DATA BIT 1 >
4	< DATA BIT 2 >
5	< DATA BIT 3 >
6	< DATA BIT 4 >
7	< DATA BIT 5 >
8	< DATA BIT 6 >
9	< DATA BIT 7 >
10	/ACKNLG >
11	BUSY >
12	PE >
13	SLCK >
14	< /AUTO FEED XT
15	NC
16	GND
17	GND
18	NC
19~30	GND
31	< /INIT
32	/ERROR >
33	GND
34	NC
35	NC
36	< /SLCT IN

Table 8 (Serial Porl - Printer Controller)

PIN	NAME
2	STXD >
3	< SRXD
4	+10V >
6	< SDSR
20	SDTR >

Table 9 (Hard Disk Driver - Printer Controller)

PIN	NAME	PIN	NAME
1	CPURST >	26	GND
2	GND	27	CHRDY (5V)
3	< DATA 7 >	28	GND
4	< DATA 8 >	29	NC
5	< DATA 6 >	30	GND
6	< DATA 9 >	31	< HDDINT
7	< DATA 5 >	32	NC
8	< DATA 10 >	33	ADDRESS 3 >
9	< DATA 4 >	34	NC
10	< DATA 11 >	35	ADDRESS 2 >
11	< DATA 3 >	36	ADDRESS 4 >
12	< DATA 12 >	37	/ HDDCS0 >
13	< DATA 2 >	38	/ HDDCS1 >
14	< DATA 13 >	39	NC
15	< DATA 1 >	41	+5V
16	< DATA 14 >	42	+5V
17	< DATA 0 >	44	NC
18	< DATA 15 >	47	NC
19	GND	48	NC
20	NC	49	NC
21	NC	50	NC
22	GND		
23	< /IOWR		
24	GND		
25	< /IORD		

Table 10 (Motor Board - Printer Controller)

PIN	NAME
A1	< / EBD
A2	/ CVDO >
A3	< / EVSYNC
A4	< / ESTS
A5	ECMD >
A6~10	+5V
B1~3	NC
B4	< / ESBSY
B5	/ ECBSY >
B6~10	GND

Table 11 (SIMM - Printer Controller)

PIN	NAME	PIN	NAME
1	GND	37	NC
2	< DATA 0 >	38	NC
3	< DATA 16 >	39	GND
4	< DATA 1 >	40	CAS 0 >
5	< DATA 17 >	41	CAS 2 >
6	< DATA 2 >	42	CAS 3 >
7	< DATA 18 >	43	CAS 1 >
8	< DATA 3 >	44	RAS 0 >
9	< DATA 19 >	45	RAS 1 >
10	+5V	46	NC
11	NC	47	/ WE >
12	ADDRESS 0 >	48	NC
13	ADDRESS 1 >	49	< DATA 8 >
14	ADDRESS 2 >	50	< DATA 24 >
15	ADDRESS 3 >	51	< DATA 9 >
16	ADDRESS 4 >	52	< DATA 25 >
17	ADDRESS 5 >	53	< DATA 10 >
18	ADDRESS 6 >	54	< DATA 26 >
19	ADDRESS 10>	55	< DATA 11 >
20	< DATA 4 >	56	< DATA 27 >
21	< DATA 40 >	57	< DATA 12 >
22	< DATA 5 >	58	< DATA 28 >
23	< DATA 21 >	59	+5V
24	< DATA 6 >	60	< DATA 29 >
25	< DATA 22 >	61	< DATA 13 >
26	< DATA 7 >	62	< DATA 30 >
27	< DATA 23 >	63	< DATA 14 >
28	ADDRESS 7 >	64	< DATA 31 >
29	NC	65	< DATA 15 >
30	+5V	66	NC
31	ADDRESS 8 >	67	NC
32	ADDRESS 9 >	68	NC
33	RAS 3 >	69	NC
34	RAS 2 >	70	NC
35	NC	71	NC
36	NC	72	GND

Table 12 (Network I/F Board - Printer Controller)

PIN	NAME	PIN	NAME
1	NC	27	ADDRESS 4 >
2	+5V	28	ADDRESS 5 >
3	GND	29	ADDRESS 6 >
4	< DATA 0 >	30	ADDRESS 7 >
5	< DATA 1 >	31	ADDRESS 8 >
6	< DATA 2 >	32	ADDRESS 9 >
7	< DATA 3 >	33	ADDRESS 10 >
8	< DATA 4 >	34	ADDRESS 11 >
9	< DATA 5 >	35	ADDRESS 12 >
10	< DATA 6 >	36	ADDRESS 13 >
11	< DATA 7 >	37	ADDRESS 14 >
12	< DATA 8 >	38	ADDRESS 15 >
13	< DATA 9 >	39	GND
14	< DATA 10 >	40	GND
15	+5V	41	< / XNICID
16	+5V	42	< / NICINT
17	< DATA 11 >	43	/ PNTIRQ >
18	< DATA 12 >	44	/ BHE >
19	< DATA 13 >	45	< / NICREQ
20	< DATA 14 >	46	/ NICACK >
21	< DATA 15 >	47	/ IOWR >
22	GND	48	/ NICCS >
23	ADDRESS 0 >	49	/ IORD >
24	ADDRESS 1 >	50	< / RDY
25	ADDRESS 2 >	51	CPURST >
26	ADDRESS 3 >	52	CLK2 >

Table 13 (Local Talk - Printer Enhancement Unit)

PIN	NAME
1	GND
2	< HSK
3	TXD- >
4	GND
5	< RXD-
6	TXD+ >
7	NC
8	< RXD+

Table 14 (Printer Enhancement Unit - Printer Controller)

PIN	NAME	PIN	NAME	PIN	NAME
A1	< DATA16 >	B1	< DATA17 >	C1	< DATA18 >
A2	< DATA19 >	B2	< DATA20 >	C2	< DATA21 >
A3	< DATA22 >	B3	< DATA23 >	C3	< DATA24 >
A4	< DATA25 >	B4	+ 5V	C4	GND
A5	GND	B5	< SCCCS	C5	< /ROMCS 1
A6	< ADDRESS 0	B6	< ADDRESS 1	C6	< ADDRESS 2
A7	< ADDRESS 3	B7	< ADDRESS 4	C7	< ADDRESS 5
A8	< ADDRESS 6	B8	< ADDRESS 7	C8	< ADDRESS 8
A9	+ 5V	B9	GND	C9	< ADDRESS 9
A10	< ADDRESS 10	B10	< ADDRESS 11	C10	< ADDRESS 12
A11	< ADDRESS 13	B11	< ADDRESS 14	C11	< ADDRESS 15
A12	< ADDRESS 16	B12	+ 5V	C12	GND
A13	< ADDRESS 17	B13	< ADDRESS 18	C13	< ADDRESS 19
A14	< ADDRESS 20	B14	< ADDRESS 21	C14	< ADDRESS 22
A15	< ADDRESS 23	B15	< ADDRESS 24	C15	+ 5V
A16	GND	B16	< ADDRESS 25	C16	< ADDRESS 26
A17	< ADDRESS 27	B17	< ADDRESS 28	C17	< ADDRESS 29
A18	< ADDRESS 30	B18	< ADDRESS 31	C18	GND
A19	GND	B19	< /ALE	C19	< /DEN
A20	< /BLAST	B20	< /W/R	C20	< CPURST
A21	+ 5V	B21	GND	C21	+ 5V
A22	/ARAMWR >	B22	/ARAMOE >	C22	AMA 0 >
A23	AMA 1 >	B23	AMA 2 >	C23	AMA 3 >
A24	AMA 4 >	B24	AMA 5 >	C24	AMA 6 >
A25	AMA 7 >	B25	AMA 8 >	C25	AMA 9 >
A26	AMA 10 >	B26	< ALE	C26	/ACAS 0 >
A27	/ACAS 1 >	B27	ACAS 2 >	C27	/ACAS 3 >
A28	+ 5V	B28	GND	C28	GND
A29	+ 5V	B29	/ARAS 0 >	C29	/ARAS 1 >
A30	/ARAS 2 >	B30	/ARAS 3 >	C30	/ARAS 4 >
A31	/ARAS 5 >	B31	/ARAS 6 >	C31	+ 5V
A32	+ 5V	B32	GND	C32	GND

Table 15 (Printer Enhancement Unit - Printer Controller)

PIN	NAME	PIN	NAME	PIN	NAME
A1	< DATA 0 >	B1	< DATA 1 >	C1	< DATA 2 >
A2	< DATA 3 >	B2	< DATA 4 >	C2	GND
A3	GND	B3	< DATA 5 >	C3	< DATA 6 >
A4	< DATA 7 >	B4	< DATA 8 >	C4	+ 5V
A5	GND	B5	< DATA 9 >	C5	< DATA 10 >
A6	< DATA 11 >	B6	< DATA 12	C6	GND
A7	GND	B7	< DATA 13 >	C7	< DATA 14 >
A8	< DATA 15 >	B8	+ 5V	C8	GND
A9	GND	B9	< DATA 26 >	C9	< DATA 27 >
A10	< DATA 28 >	B10	< DATA 29 >	C10	< DATA 30 >
A11	< DATA 31 >	B11	GND	C11	+ 5V
A12	+ 5V	B12	GND	C12	< /D5BREQ
A13	< /D5BACK	B13	/SCCREQ >	C13	NC
A14	+ 5V	B14	GND	C14	GND
A15	+ 5V	B15	/SOOTINT >	C15	/SCCINT >
A16	+ 5V	B16	GND	C16	GND
A17	GND	B17	+ 5V	C17	< /RDY
A18	< CLK 2	B18	GND	C18	GND
A19	+ 5V	B19	+ 5V	C19	< /IORD
A20	< /IOWR	B20	< /DRAMOE	C20	< /ORAMWR
A21	+ 5V	B21	+ 5V	C21	< DMA 0
A22	< DMA 1	B22	< DMA 2	C22	< DMA 3
A23	< DMA 4	B23	< DMA 5	C23	< DMA 6
A24	< DMA 7	B24	< DMA 8	C24	< DMA 9
A25	< DMA 10	B25	< DMA 11	C25	GND
A26	GND	B26	< /DCAS 0	C26	< /DCAS 1
A27	< /DCAS 2	B27	< /DCAS 3	C27	+ 5V
A28	GND	B28	< /DRAS 0	C28	< /DRAS 1
A29	< /DRAS 2	B29	< /DRAS 3	C29	< /DRAS 4
A30	< /DRAS 5	B30	< /DRAS 6	C30	< /DRAS 7
A31	< /DRAS 8	B31	< /DRAS 9	C31	+ 5V
A32	+ 5V	B32	GND	C32	GND

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PARTS CATALOG

INTRODUCTION

This chapter instructs you the numbers and names of parts on this machine.

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29.Decal and Document (A224) 66
30.Special Tools (A224) 68
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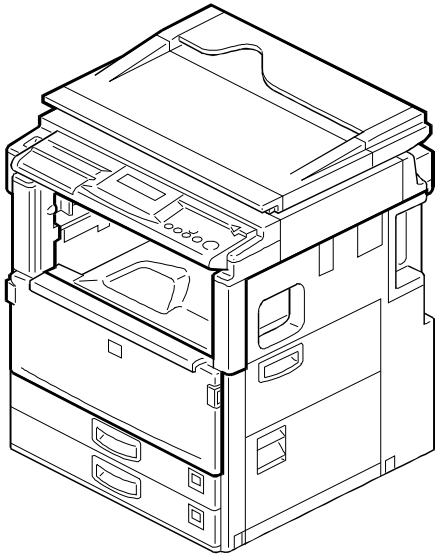
June, 1 ’97

Location of unit

1.Exterior 1 (A224)



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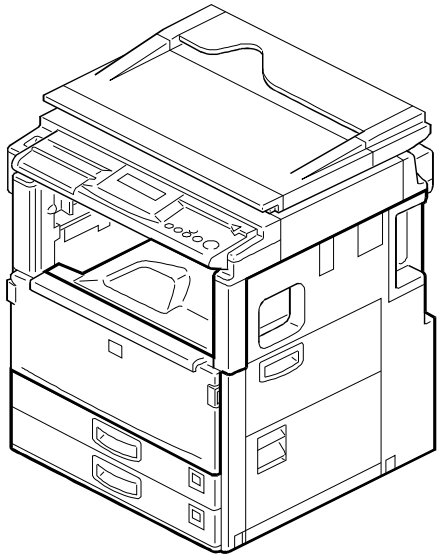
2.Exterior 2 (A224)



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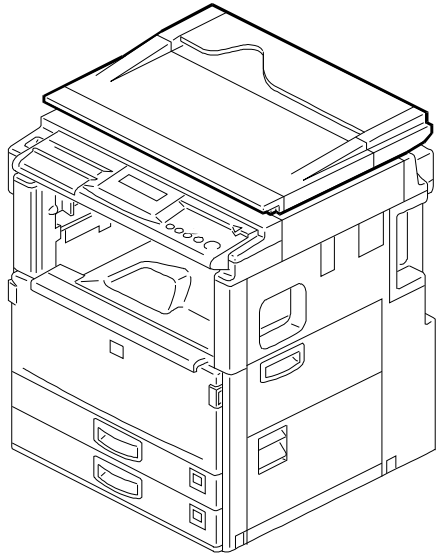
3.Platen Cover (A224)



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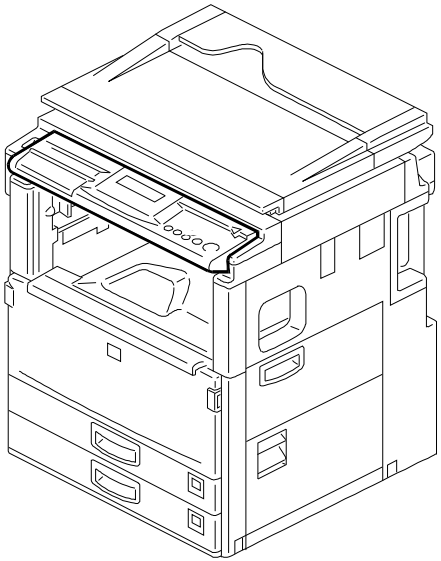
4.Operation Panel (A224)



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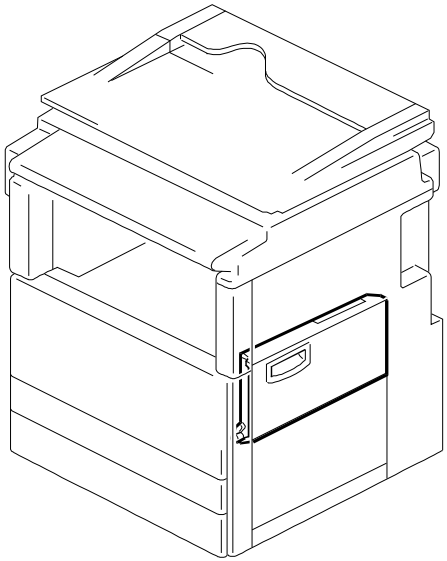
5.By-pass Feed Table (A224)



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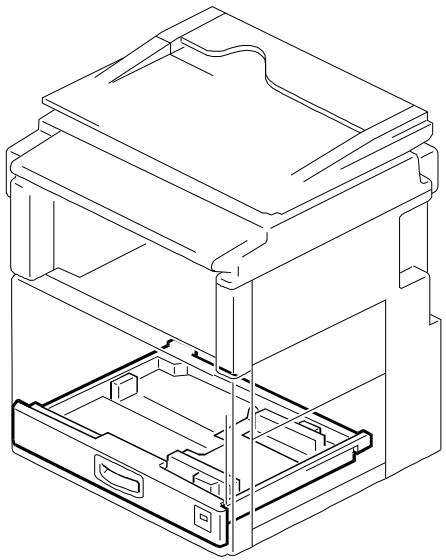
6.Paper Tray (A224)



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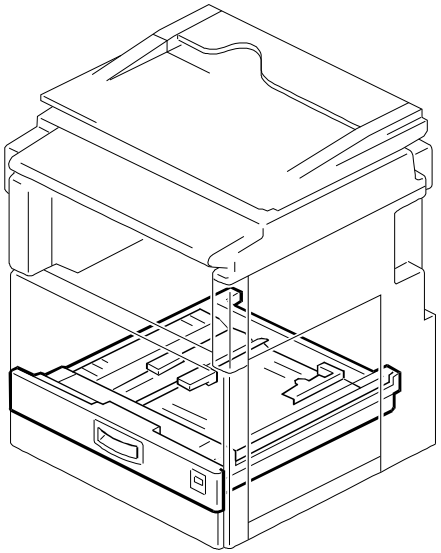
Location of unit

7.Duplex Tray 1 (A224)



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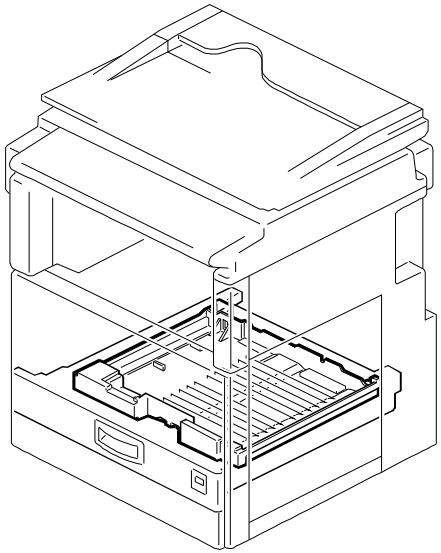
8.Duplex Tray 2 (A224)



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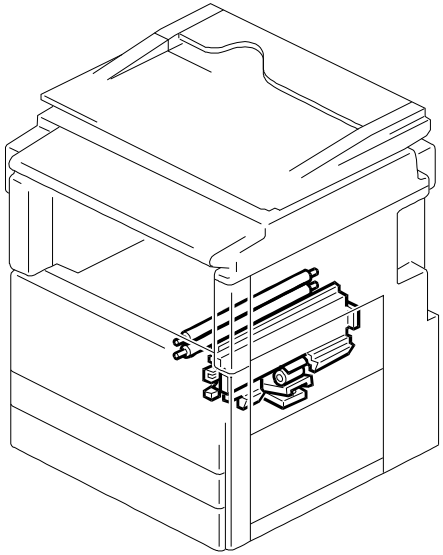
9.Resistration (A224)



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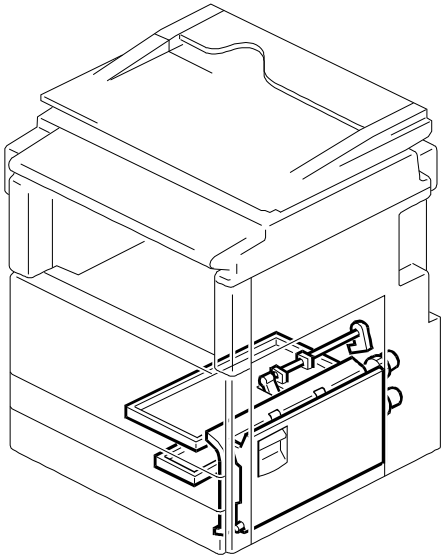
10.Paper Feed Section (A224)



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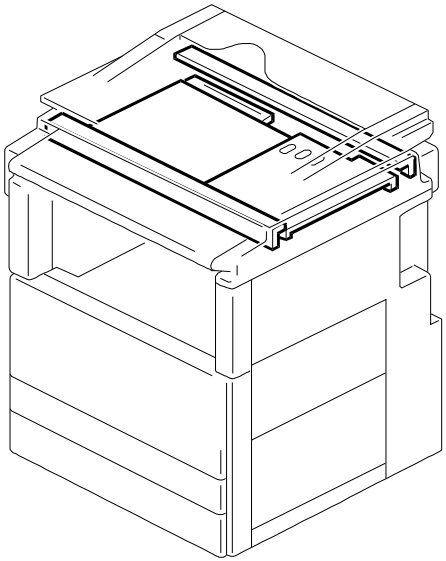
11.Optics Section 1 (A224)



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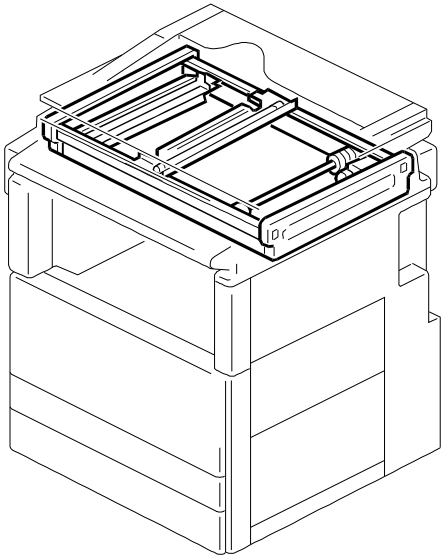
12.Optics Section 2 (A224)



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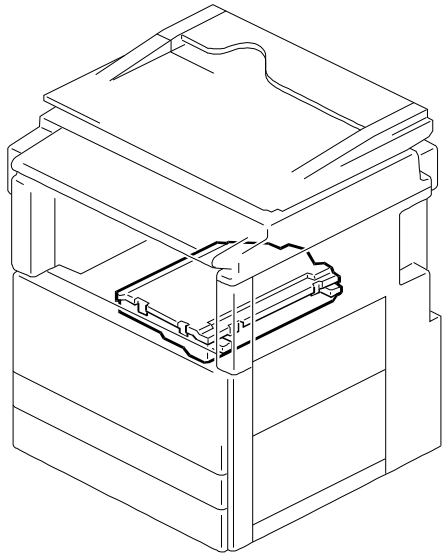
Location of unit

13.Laser Unit (A224)



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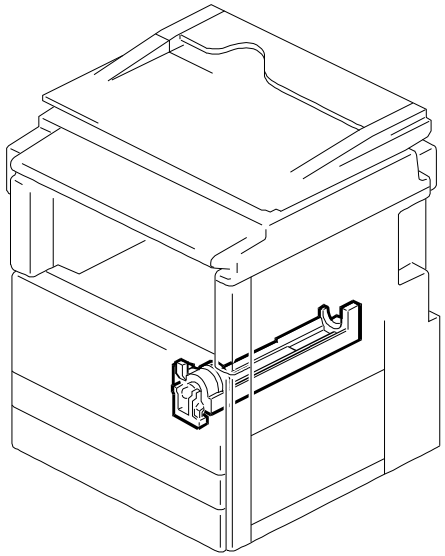
14.Toner Hopper Unit (A224)



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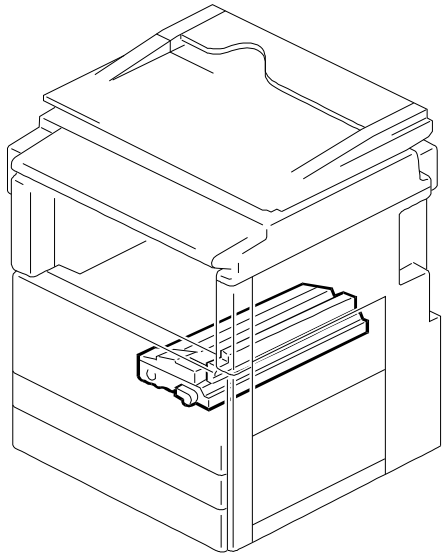
15.P.C.U. (A224)



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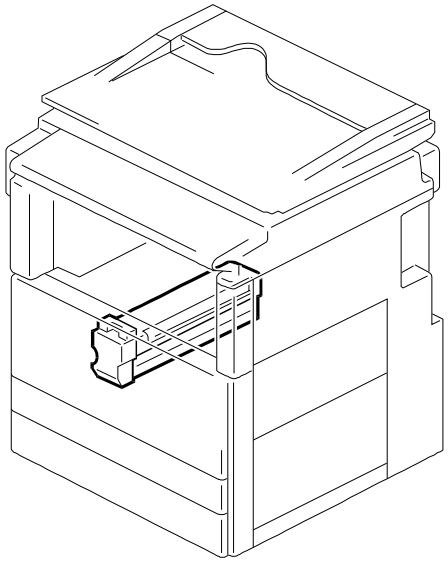
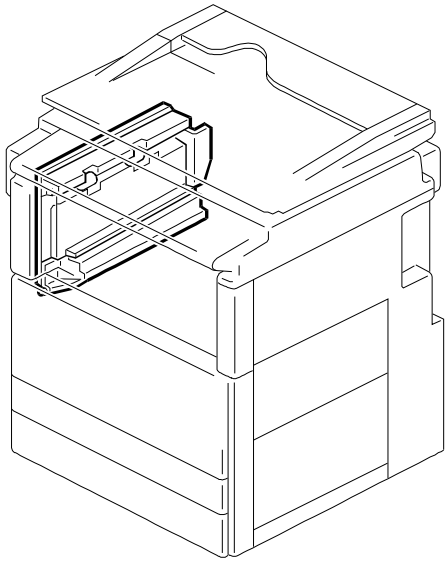
16.Fusing Unit (A224)



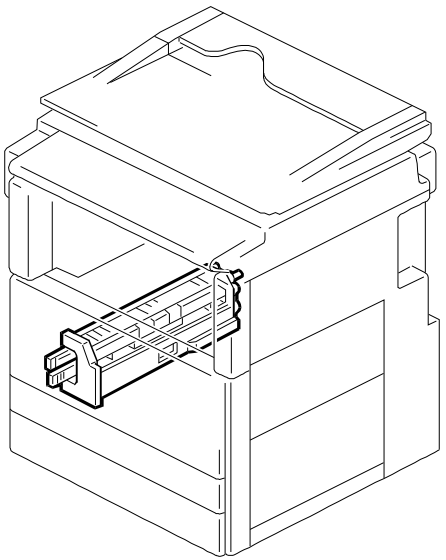
See Page 37

17.Paper Exit Section (A224)



See Page 39

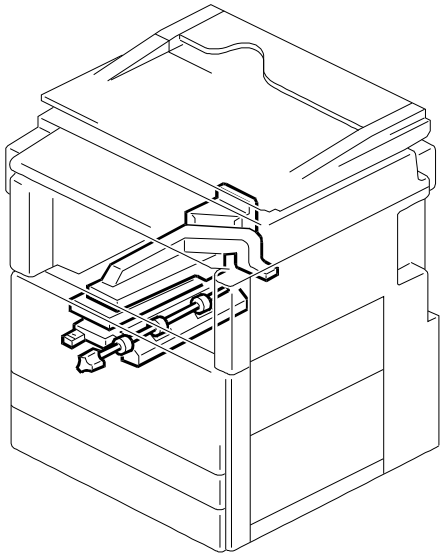
18.Inverter Unit



See Page 41

Location of unit

19.Transport Section 1 (A224)



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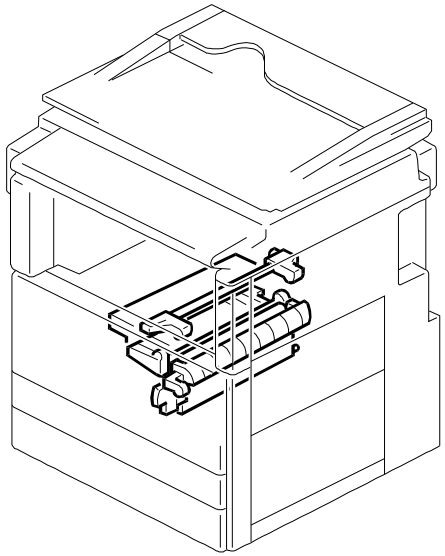
20.Transport Section 2 (A224)



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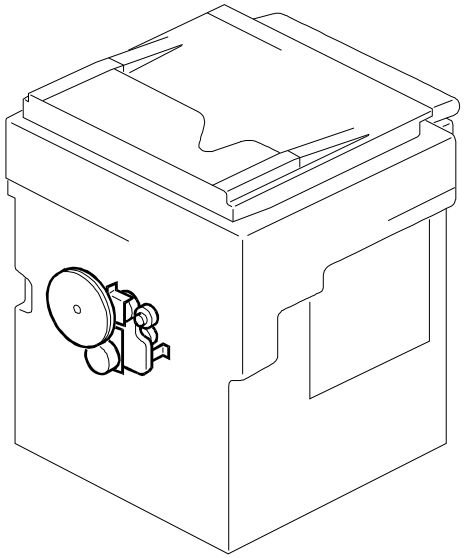
21.Drive Section 1 (A224)



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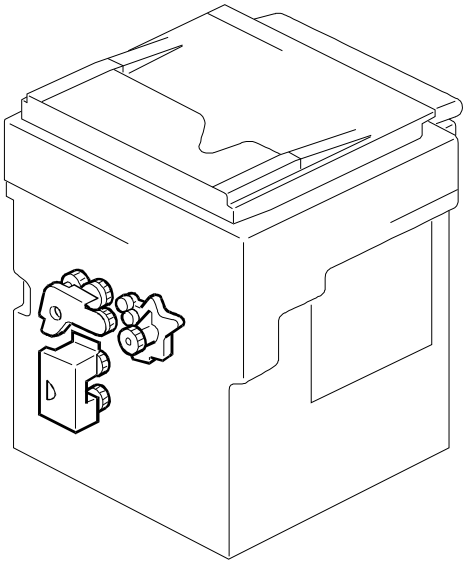
22.Drive Section 2 (A224)



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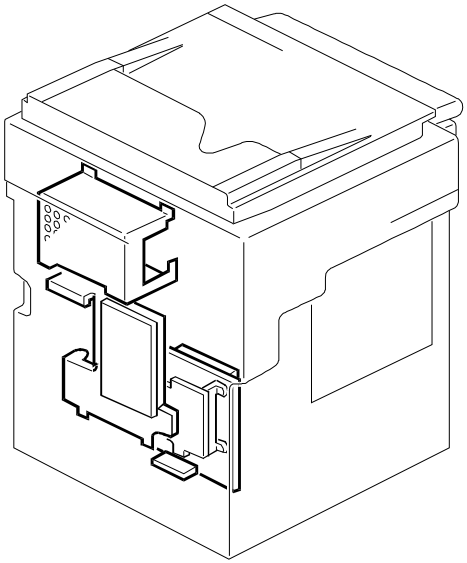
23.Electrical Section 1 (A224)



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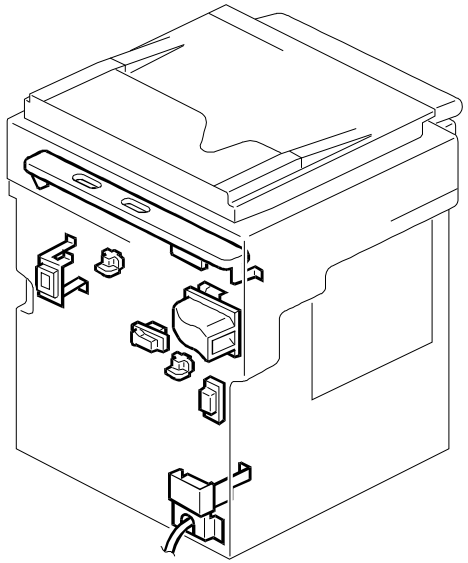
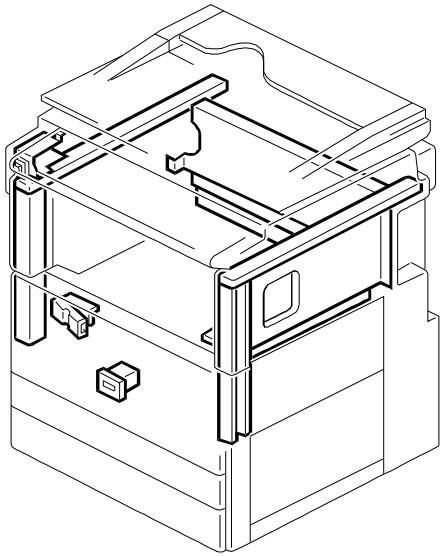
24.Electrical Section 2 (A224)



See Page 53

Location of unit

25.Frame Section 1 (A224)



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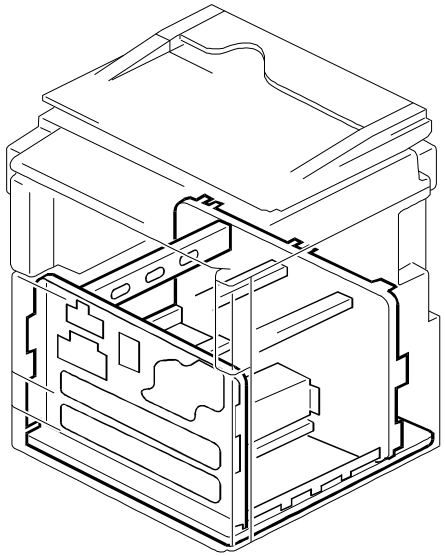
26.Frame Section 2 (A224)



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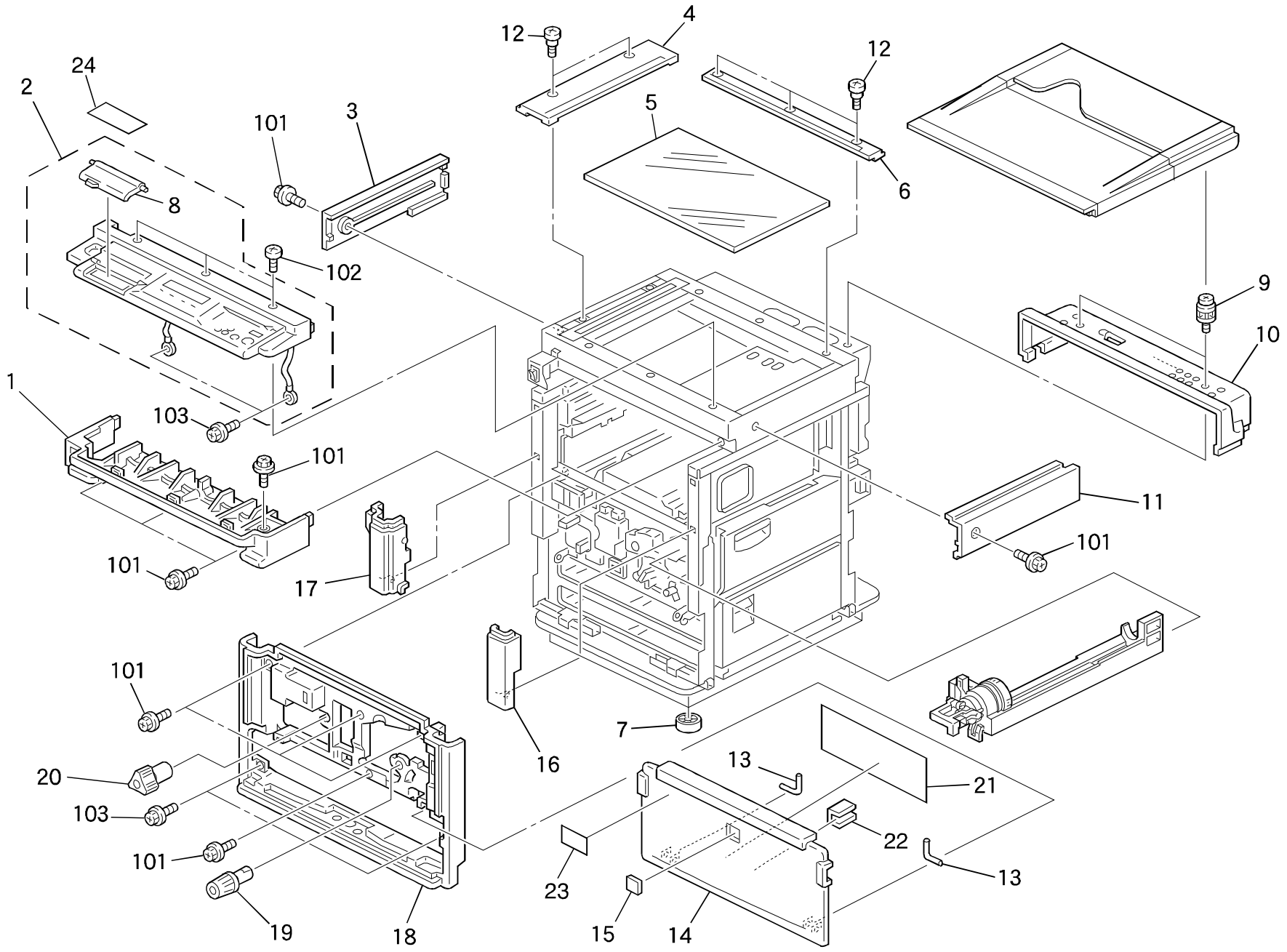
1.Exterior 1 (A224)

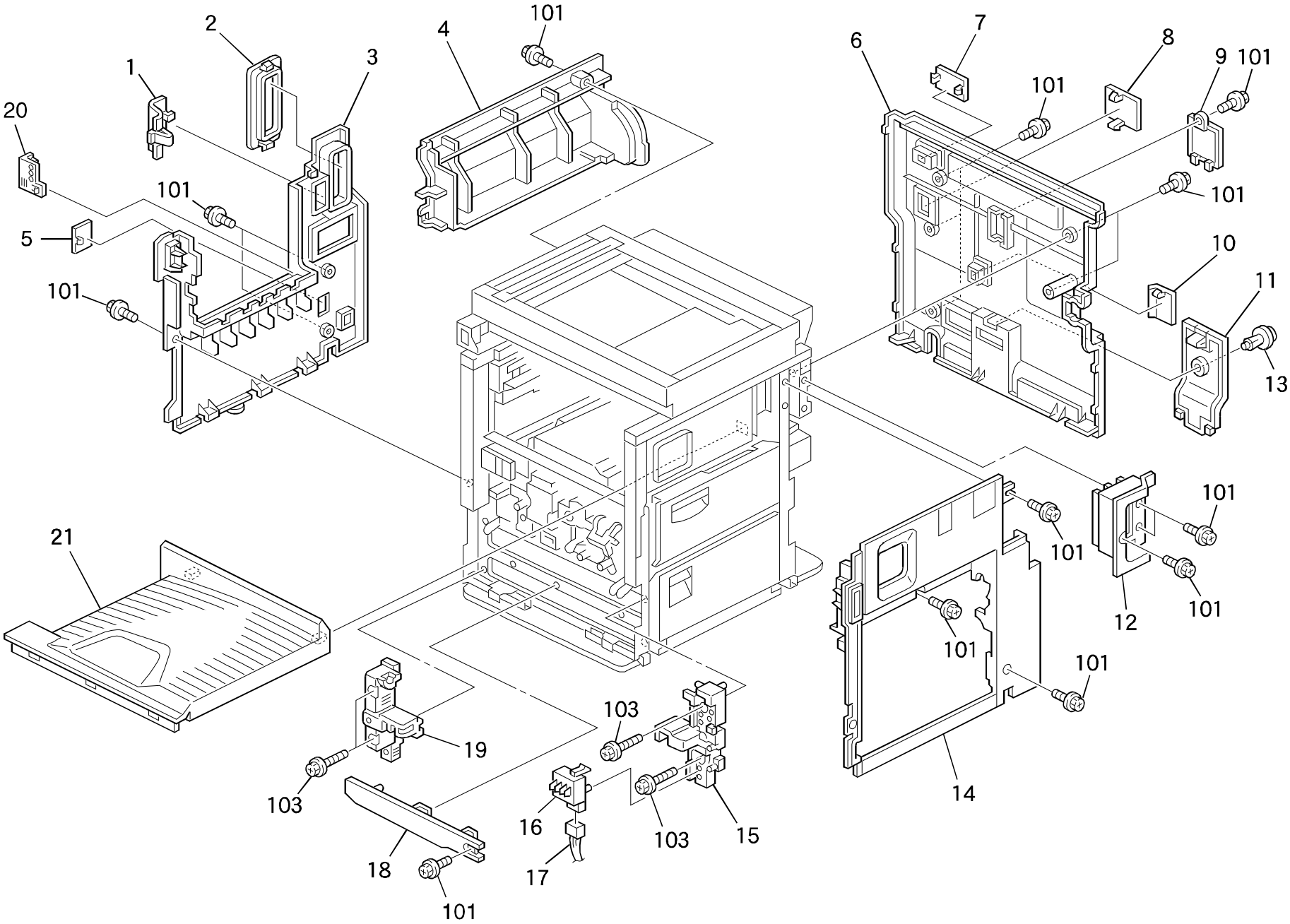


1.Exterior 1 (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A193 1266	Lower Cover - Operation Panel	1
2	A193 1451	Operation Panel Ass'y (LT)	1
2	A193 1452	Operation Panel Ass'y (A4)	1
2	A193 1453	Operation Panel Ass'y (SVN)	1
2	A193 1404	Operation Panel Ass'y (Asia)	1
3	A193 1251	Scanner Left Cover	1
4	A193 1680	Left Original Scale	1
5	5215 1980	Exposure Glass - A3T-3.2	1
6	A193 1757	Rear Original Scale	1
7	G020 1052	Stand	4
8	A193 1474	Lower Cover - Operation Panel	1
9	5215 1667	Platen Cover Stud	2
10	A193 1256	Upper Rear Cover	1
11	A193 1261	Scanner Right Cover	1
12	A193 1759	Stepped Screw	5
13	G020 1332	Hinge Front Door	2
14	A193 7226	Front Door (GES/LAN)	1
14	A224 7224	Front Door (SVN)	1
14	A224 7214	Front Door (INF)	1
14	A224 1501	Front Door (RIC)	1
15	A133 7112	Emblem (SVN)	1
15	A134 1383	Emblem (RIC)	1
15	A153 6423	Support Cover	1
16	A193 1341	Right Front Cover	1
17	A193 1336	Left Front Cover	1
18	A193 1301	Front Cover	1
19	G020 2783	Registration Roller Knob	1
20	G020 4480	Fusing Knob	1
21	A224 1320	Operating Instruction Sheet	1
22	G020 1259	Rubber Protector - Front Cover	1
23	A224 7341	Decal - Brand Name - GES	1
23	A224 7343	Decal - Brand Name - NSA	1
23	A224 7345	Decal - Brand Name - REX	1
23	A224 7347	Decal - Brand Name - LAN	1
24	C224 2867	Decal - Key Top C[illegible] (NSA)	1

Index No.	Part No.	Description	Q'ty Per Assembly
24	C225 2866	Decal - Key Top Cover (REX)	1
24	A153 6409	Decal - Key Top Cover (GES)	1
101	0802 5255	Tapping Screw - M3	
102	0353 0050F	Tapping Screw - M3[illegible]	

2.Exterior 2 (A224)

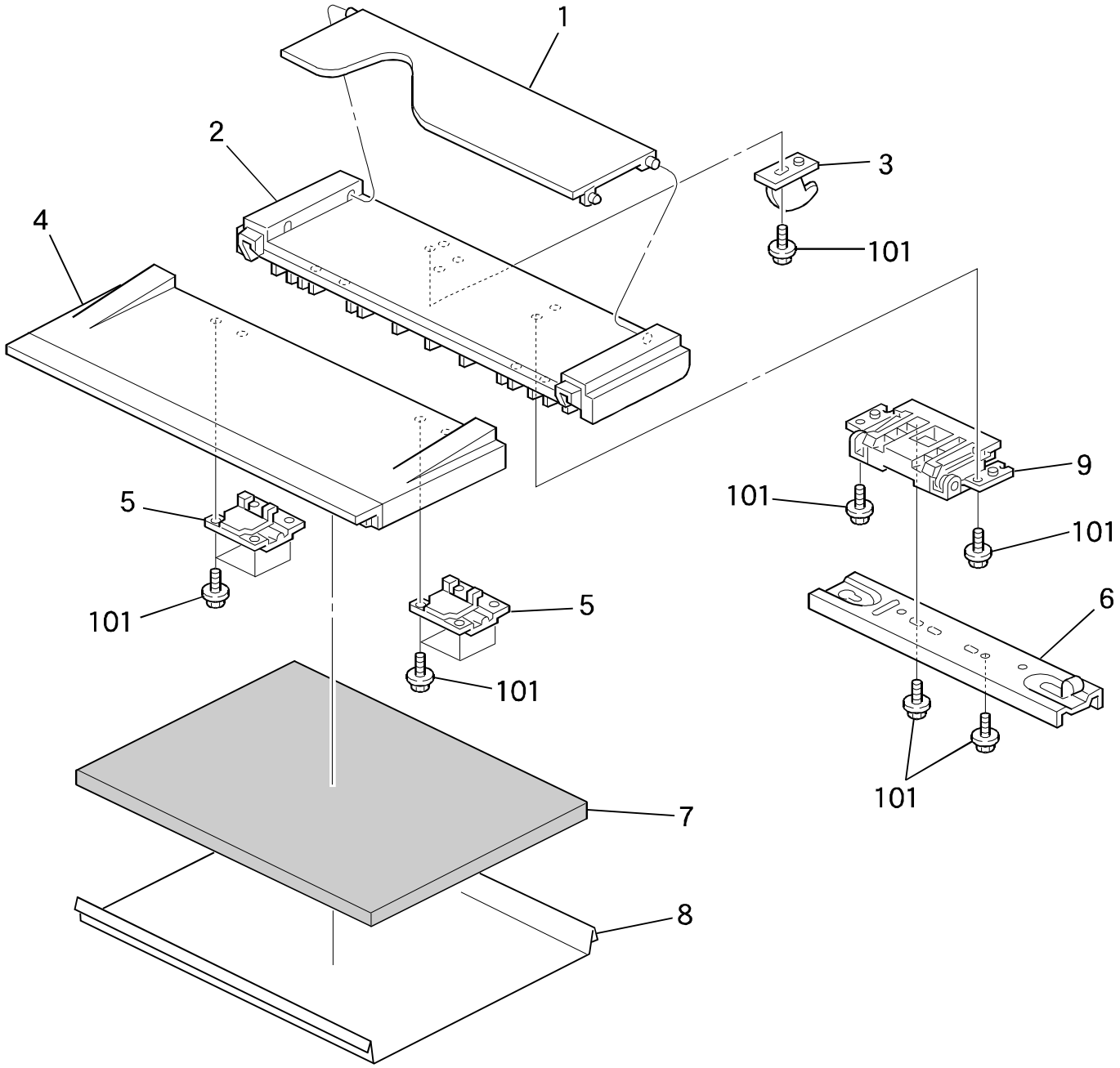


2.Exterior 2 (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A193 1358	Cap - RS232C	1
2	A193 1356	Cap - IC Card	1
3	A224 1207	Lower Left Cover (115V)	1
3	A224 1209	Lower Left Cover (230V)	1
4	A193 1276	Middle Left Cover	1
5	G020 1351	Cap - Finisher	1
6	A193 1210	Lower Rear Cover	1
7	A193 1348	Cap - G4	1
8	A193 1350	Cap - NCU	1
9	A193 1354	Cap - Memory	1
10	A193 1352	Cap - CSS	1
11	A193 1361	Cap - Paper Tray Unit	1
12	A193 1281	Rear Right Cover	1
13	A193 1345	Rivet - M20	1
14	A224 1291	Lower Right Cover	1
15	G020 2676	Support - Paper Tray - Right	1
16	G020 2620	Push Switch - Paper Size	1
17	A224 5404	Harness - Paper Size Sensor	1
18	G020 1316	Inner Cover - Paper Feed Tray	1
19	G020 2677	Support - Paper Tray - Left	1
20	A193 1349	Cap - Sorter	1
21	A193 1316	Lower Exit Cover	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0802 5255	Tapping Screw - M3x	
103	0451 3014B	Tapping Screw - M3-	

3.Platen Cover (A224)

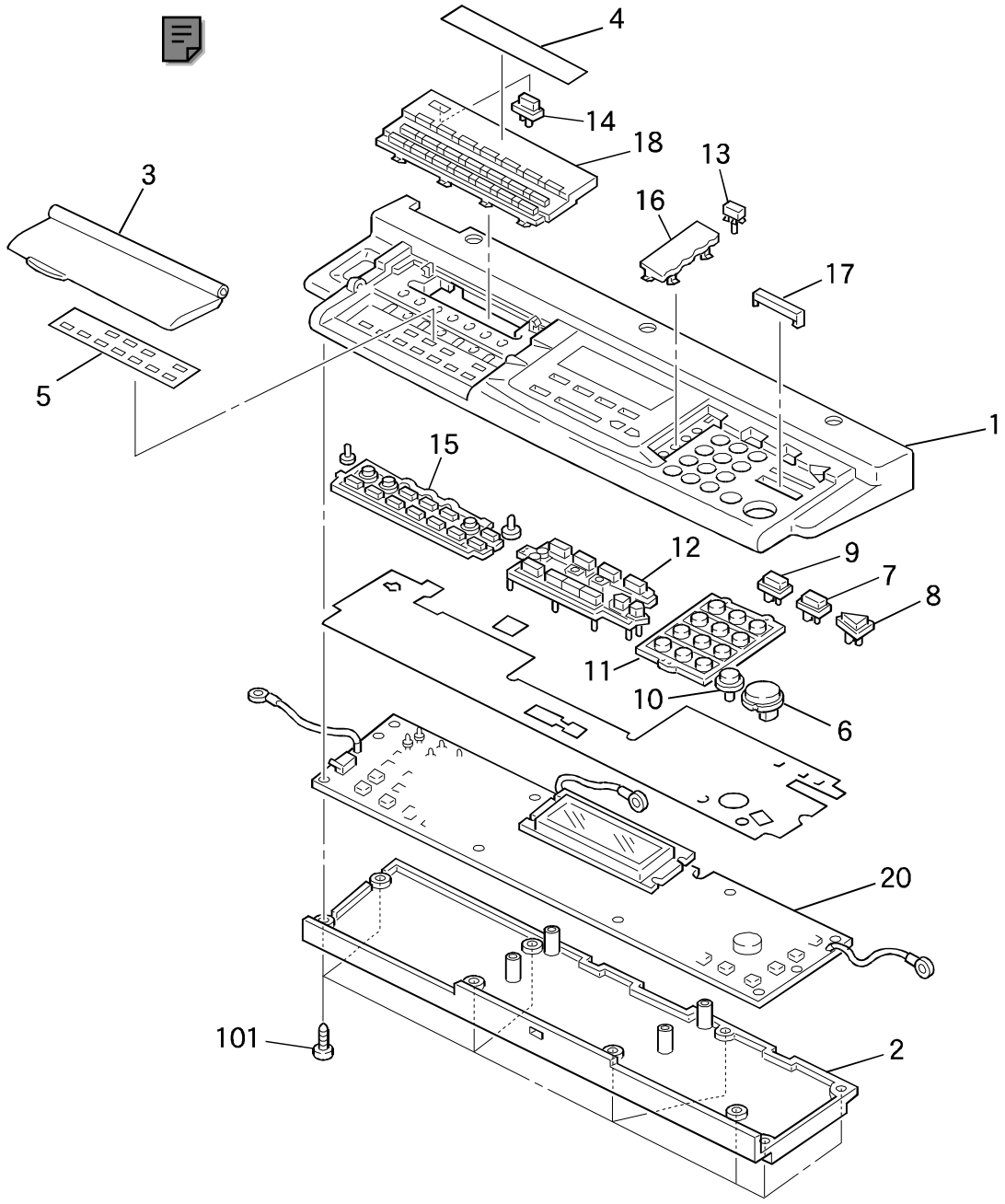


3.Platen Cover (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A193 1396	Original Holder	1
2	A193 1391	Rear Platen Cover	1
3	A193 1381	Platen Cover Actuator	1
4	A193 1386	Front Platen Cover	1
5	A193 1317	Platen Cover Brac	2
6	A053 1957	Flex Hinge - Platen Cover	1
7	AA16 2067	Platen Cover Pad	1
8	5448 2804	Platen Cover Sheet	1
9	A193 1246	Platen Cover Hinge Ass'y	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0450 4012D	Tapping Screw - M4x12	

4.Operation Panel (A224)

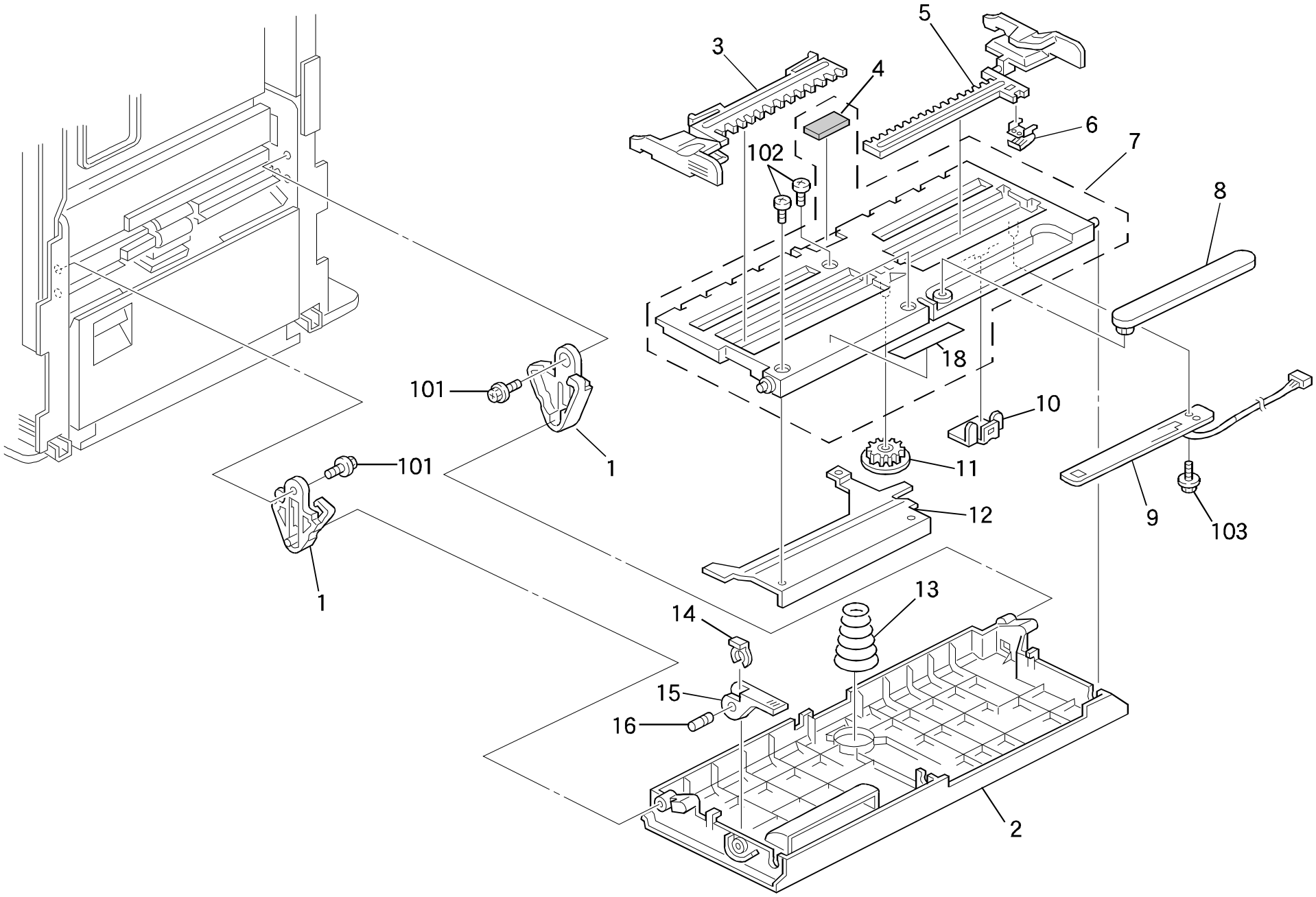


4.Operation Panel (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
*	A193 1451	Operation Panel Ass'y (LT)	1
*	A193 1452	Operation Panel Ass'y (A4)	1
*	A193 1453	Operation Panel Ass'y (SVN)	1
*	A193 1404	Operation Panel Ass'y (ASIA)	1
1	A193 1455	Operation Panel Case (LT)	1
1	A193 1465	Operation Panel Case (A4)	1
2	A193 1472	Lower Case - Operation Panel	1
3	A193 1474	Lower Cover - Operation Panel	1
4	A193 1456	Decal - Operation Panel (LT)	1
4	A193 1466	Decal - Operation Panel (A4)	1
5	A193 1457	Sheet - Operation Panel (LT)	1
5	A193 1467	Sheet - Operation Panel (A4)	1
6	A193 1477	Key Top - Start	1
6	A193 1491	Key Top - Start (SVN)	1
7	A193 1478	Key Top - Clear Mode	1
7	A193 1492	Key Top - Clear Mode (SVN)	1
8	A193 1479	Key Top - Interrupt	1
8	A193 1493	Key Top - Interrupt (SVN)	1
9	A193 1480	Key Top - Program Mode	1
9	A193 1494	Key Top - Program (SVN)	1
10	A193 1481	Key Top - Clear	1
10	A193 1495	Key Top - Clear (SVN)	1
11	A193 1461	Key Top - 10 Key (LT)	1
11	A193 1463	Key Top - 10 Key (ASIA)	1
11	A193 1482	Key Top - 10 Key (A4)	1
11	A193 1496	Key Top - 10 Key (SVN)	1
12	A193 1483	Key Top - LCD	1
12	A193 1497	Key Top - LCD (SVN)	1
13	A193 1458	Key Top - Memory (LT)	1
13	A193 1468	Key Top - Memory (A4)	1
13	A193 1498	Key Top - Memory (SVN)	1
14	A193 1485	Key Top - Initial	1
14	A193 1499	Key Top - Initial (SVN)	1
15	A193 1486	Key Top - Behind	1
15	A193 1449	Key Top - Behind (SVN)	1

Index No.	Part No.	Description	Q'ty Per Assembly
16	A193 1487	Right Cover - Operation Panel	1
17	A193 1488	Cover - Apprication	1
18	A193 1473	Upper Cover - Operation Panel	1
19	A193 1460	LCD (LT)	1
19	A193 1469	LCD (A4)	1
20	A193 1459	Operation Board (LT)	1
20	A193 1462	Operation Panel Board (A4)	1
101	0353 0050F	Tapping Screw - M3x5	

5.By-pass Feed Table (A224)

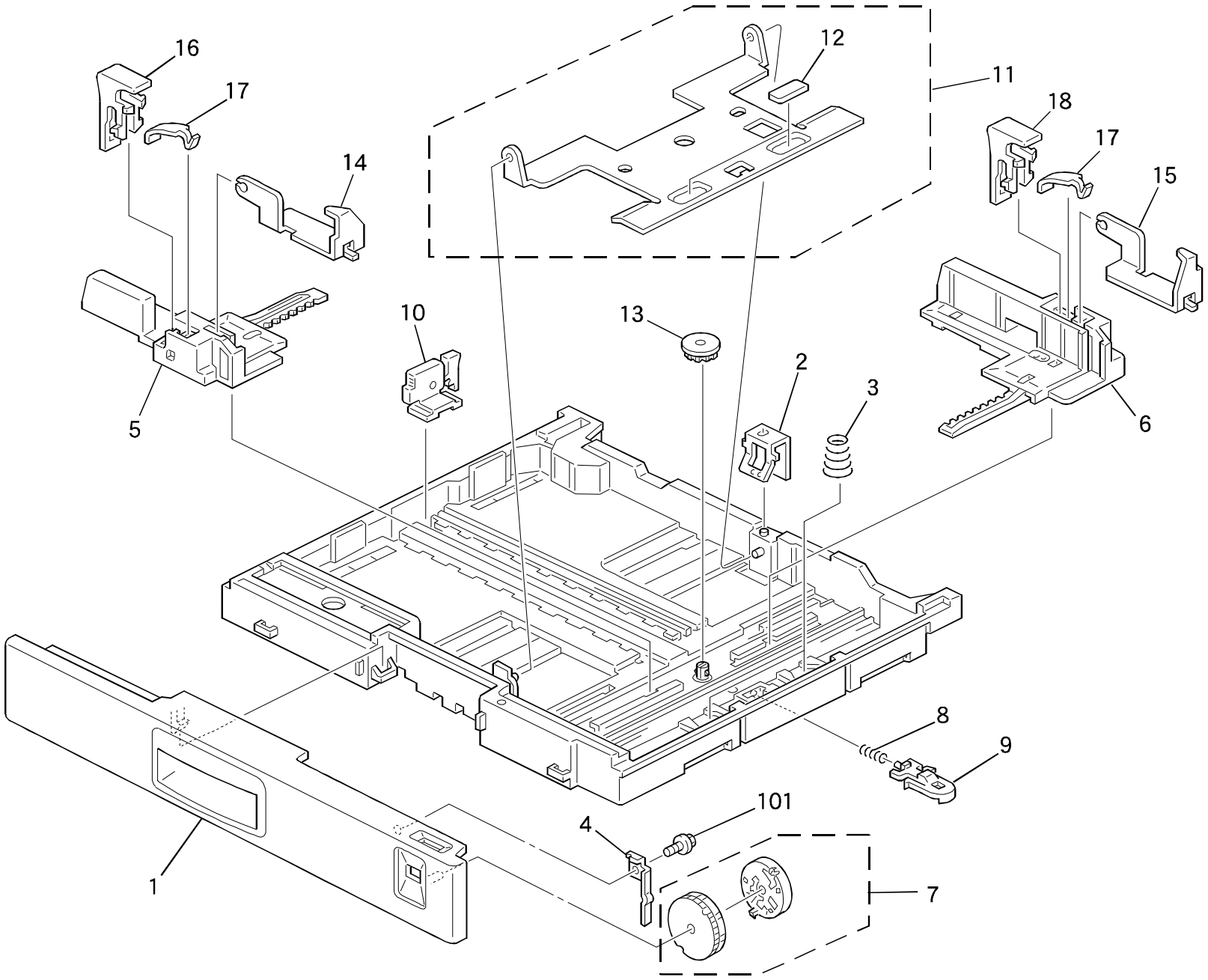


5.By-pass Feed Table (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 2735	Guide - By-pass Feed Table	2
2	G020 2701	Cover - By-pass Table	1
3	G020 2706	Left Side Fence - By-pass Feed	1
4	5215 2713	Bottom Plate Pad	1
5	G020 2705	Right Side Fence - By-pass Feed	1
6	G020 2707	Sensor Conductor - By-pass Feed	1
7	G020 2709	Bottom Plate - By-pass Table	1
8	A190 2702	Paper Guide	1
9	G020 5280	By-pass Feed Sensor	1
10	G020 2708	Spring Plate - By-pass Feed	1
11	G011 3305	Gear - 16T	1
12	G020 2782	Stay - By-pass Table	1
13	G020 2702	Pressure Spring - By-pass Feed	1
14	5447 2681	Snap Ring	1
15	G020 2784	Lever - By-pass Feed Table	1
16	G020 2786	Shaft - By-pass Release Lever	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	

6.Paper Tray (A224)

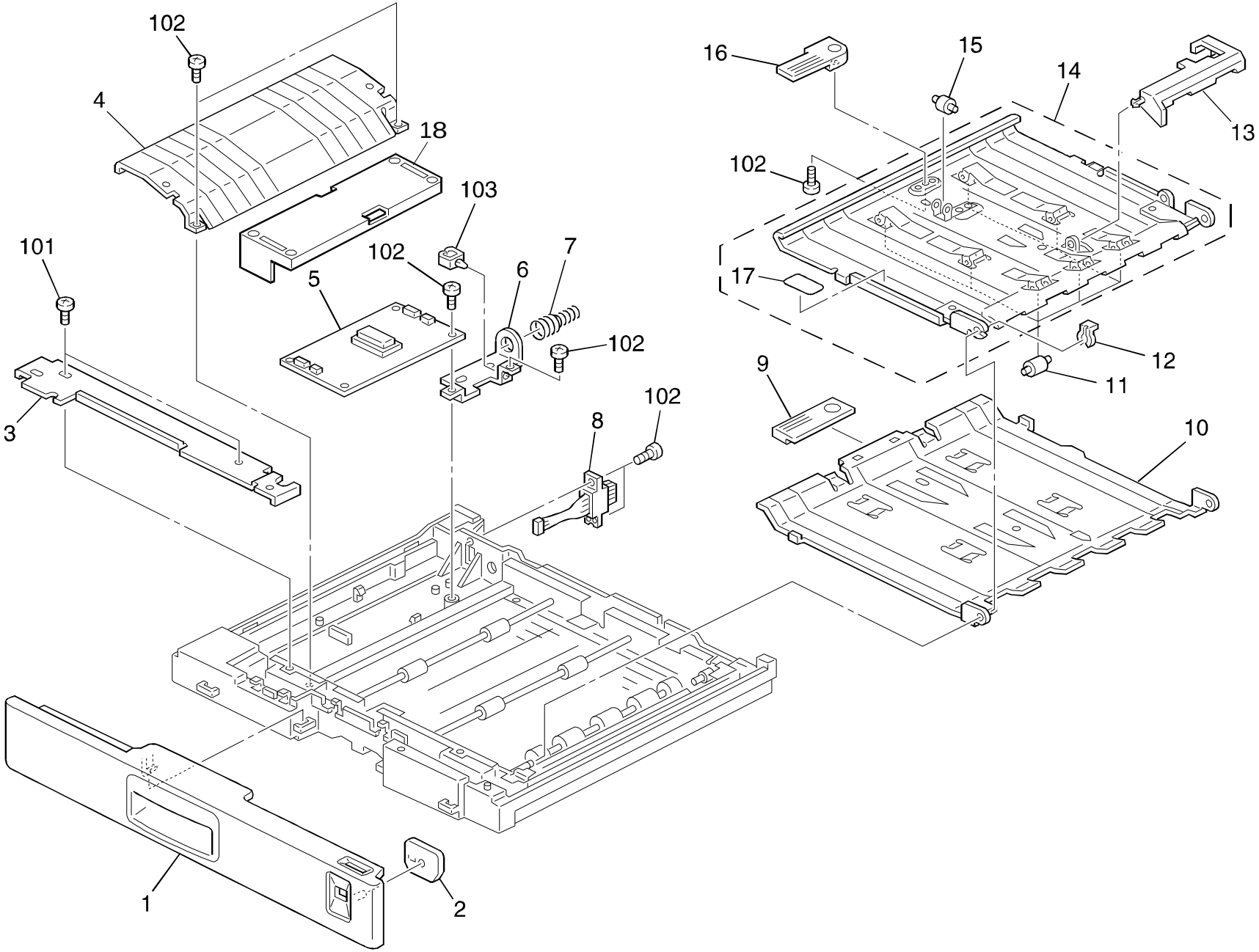


6.Paper Tray (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 2647	Paper Tray Cover	1
2	G020 2658	Grounding Plate - Bottom Plate	1
3	G020 2656	Pressure Spring - Bottom Plate	1
4	G020 2648	Holder - Paper Size Detector	1
5	G020 2560	Front Side Fence	1
6	G020 2567	Rear Side Faence	1
7	A193 2649	Paper Size Detector - LT	1
7	A193 2650	Paper Size Detector - A4	1
8	G020 2599	Spring - Release Lever	1
9	G020 2592	Release Lever - Bottom Plate	1
10	G020 2644	End Fence	1
11	G020 2661	Bottom Plate Ass'y	1
12	G020 2645	Friction Pad	2
13	AB01 3868	Gear - 16Z	1
14	G020 2573	Front Paper Separator	1
15	G020 2558	Rear Paper Separator	1
16	G020 2664	Front Stopper Lever	1
17	A157 2769	Rear Stopper Spring	2
18	A190 2642	Rear Lever Stopper	1

Index No.	Part No.	Description	Q'ty Per Assembly

7.Duplex Tray 1 (A224)

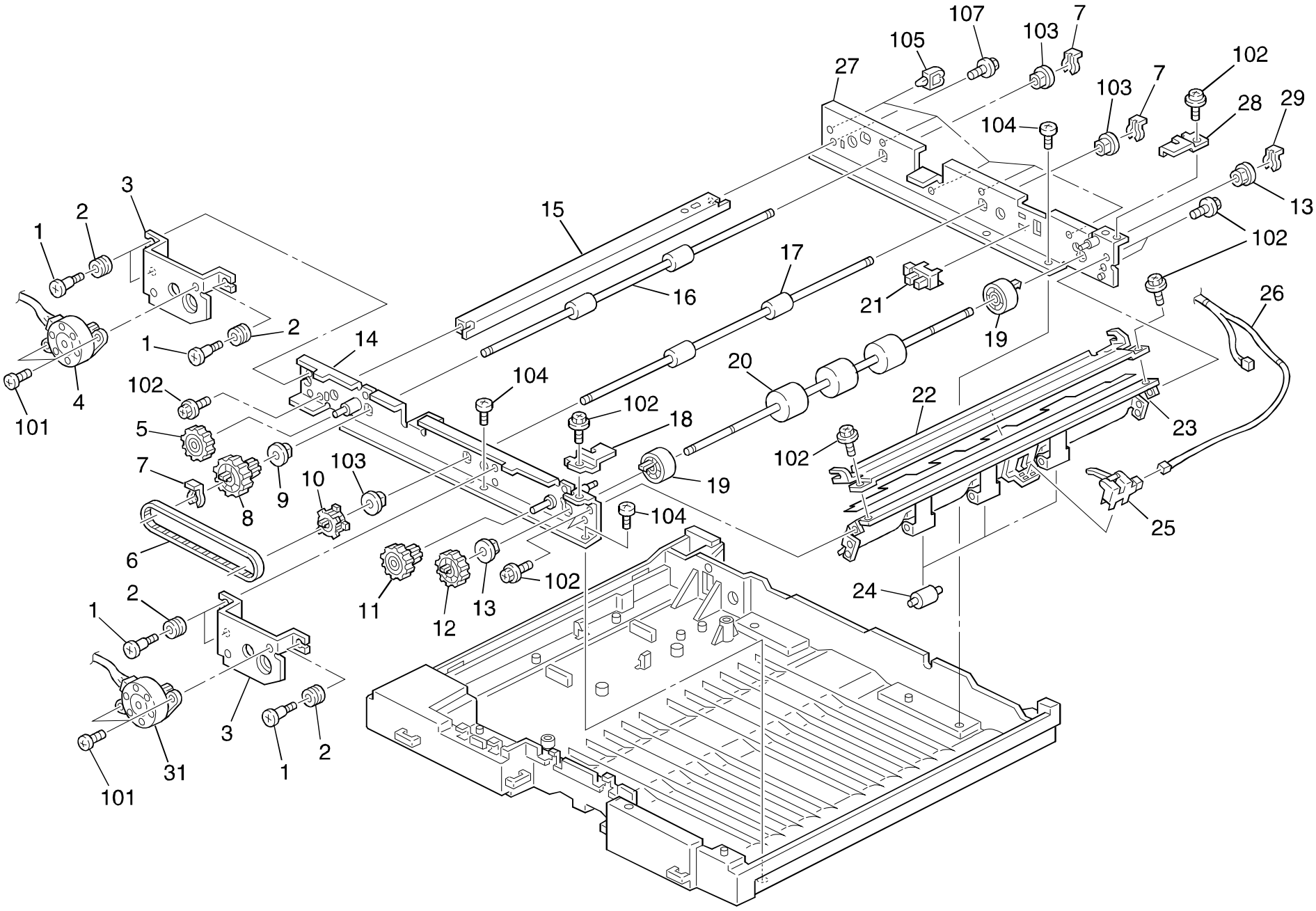


7.Duplex Tray 1 (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 2647	Paper Tray Cover	1
2	G694 4703	Duplex Indicater	1
3	G694 4781	Front Duplex Cover	1
4	G694 4783	Left Duplex Cover	1
5	G694 5350	Duplex Drive Board	1
6	G694 4791	Grounding Plate	1
7	G694 4792	Grounding Plate Spring	1
8	G694 5200	Duplex Connector Harness	1
9	A134 4739	Lower Guide Plate Knob	1
10	G694 4730	Lower Guide Plate	1
11	AF02 2077	Driven Roller	1
12	5206 2686	Snap Ring	1
13	G694 4735	Inverter Feeler	1
14	G694 4740	Upper Guide Plate	1
15	G694 4747	Guide Plate Holder	1
16	A134 4726	Guide Plate Knob	1
17	A134 4884	Decal - Duplex Misfeed Removal	1
18	G694 4788	Lower Cover - Duplex Board	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	
102	0452 3008Z	Bind Tapping Screw - M3x8	
103	1105 0319	Harness Clamp	

8.Duplex Tray 2 (A224)

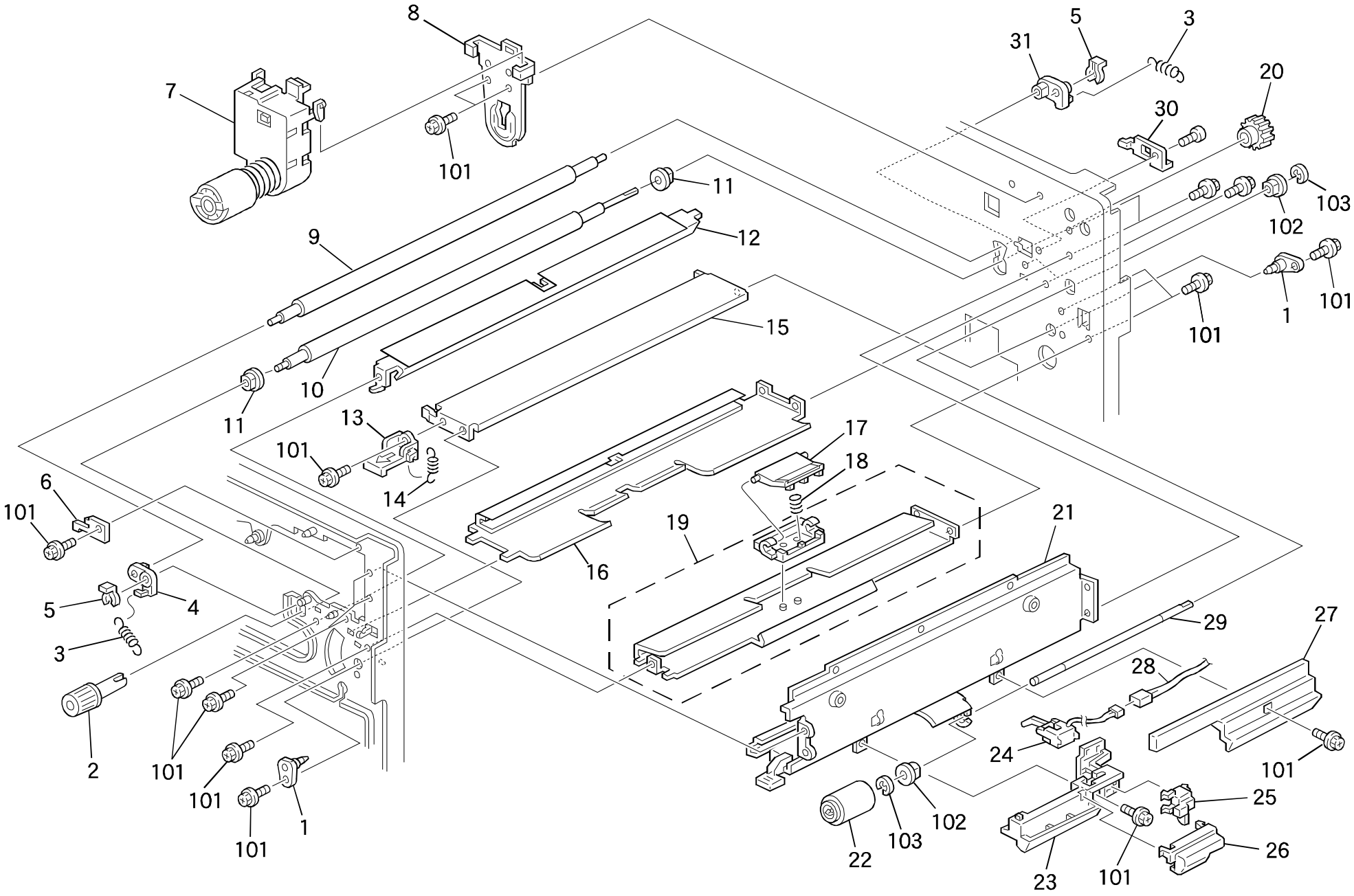


8.Duplex Tray 2 (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G694 4762	Stepped Screw - M3	6
2	G694 4761	Cushion	6
3	G694 4760	Motor Bracket	2
4	G694 5202	Transport Motor	1
5	G694 4716	Gear - 46Z	1
6	AA04 3373	Timing Belt - S2M308	1
7	5447 2681	Snap Ring	3
8	G694 4757	Gear - 24Z	1
9	G694 4759	Bushing - 6mm	1
10	AB03 0474	Pulley - 24Z	1
11	G694 4715	Gear - 24Z/46Z	1
12	G694 4753	Gear - 48Z	1
13	5053 0223	Bushing - 8mm	2
14	G694 4710	Front Side Plate - Duplex Unit	1
15	G694 4728	Duplex Unit Stay	1
16	G694 4755	Left Transport Roller	1
17	G694 4756	Middle Transport Roller	1
18	G694 4717	Front Stopper - Guide Plate	1
19	G694 4752	Inverter Roller Supporter	2
20	G694 4751	Inverter Roller - Duplex Unit	1
21	AW02 0075	Photointerrupter	1
22	G694 4725	Inverter Guide Plate	1
23	G694 4706	Lower Exit Guide	1
24	AF02 2077	Driven Roller	3
25	G694 5736	Exit Sensor	1
26	G694 5201	Sensor Harness - Duplex Unit	1
27	G694 4720	Rear Side Plate - Duplex Unit	1
28	G694 4723	Rear Stopper - Guide Plate	1
29	5215 2621	Snap Ring - M6	1
30	G694 5737	Inverter Motor DC 8.4W	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0353 0060B	Philips Pan Head Screw - M3x6	
102	0451 3006B	Tapping Screw - M3x6	
103	0805 3480	Bushing - 6mm	
104	0452 3008Z	Bind Tapping Screw - M3x8	
105	1105 0319	Harness Clamp	

9.Resistration (A224)

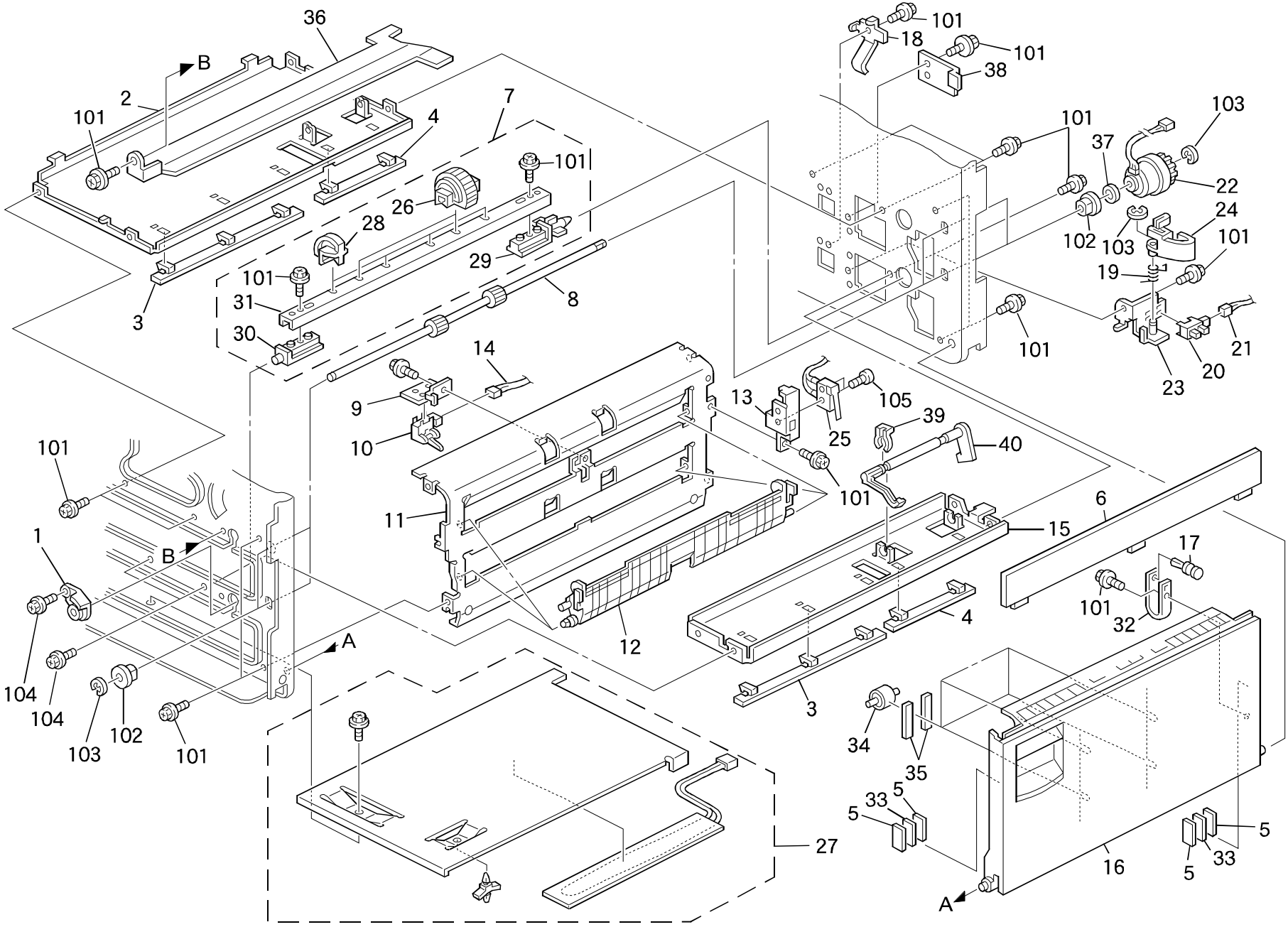


9.Resistration (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 3888	Pin - Transfer Guide	2
2	G020 2783	Registration Roller Knob	1
3	G020 2743	Tension Spring	2
4	G020 2780	Front Bushing - Registration	1
5	5447 2681	Snap Ring	2
6	A193 3370	Cover Guide - Toner Bottle - Asia	1
6	A193 3367	Cover Guide - Toner Bottle (A4)	1
6	A193 3371	Cover Guide - Toner Bottle (OEM)	1
7	G020 1111	Motor - DC 2.16W	1
8	G020 1161	Bracket - Toner Supply Motor	1
9	A224 2741	Upper Registration Roller	1
10	G020 2740	Lower Registration Roller	1
11	AA08 2070	Bushing - 8x16x7	2
12	G020 2745	Lower Guide Plate - Regist	1
13	G020 2765	Knob - Lower Transport Guide	1
14	AA06 0331	Release Spring	1
15	G020 2761	Lower Transport Guide	1
16	G020 2754	Upper Paper Guide	1
17	G020 2714	Friction Pad - By-pass Feed	1
18	G020 2713	Pressure Spring	1
19	G020 2718	Stay - By-pass Feed	1
21	G020 3361	Guide Plate - Toner Supply	1
22	G020 2721	By-pass Feed Roller	1
23	G020 2753	Bracket - Registration Sensor	1
24	G020 2771	Registration Sensor	1
25	G020 2772	By-pass Paper End Sensor	1
26	G020 2787	Cover - By-pass Paper End Sensor	1
27	G020 2785	Cover - Feed Roller Shaft	1
28	G020 5417	Harness - Registration Sensor	1
29	G020 2722	By-pass Feed Shaft	1
30	A224 1064	PCU Bracket	1
31	G020 2781	Rear Bushing - Registration Roller	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	
102	0805 3385	Bushing - 6mm	
103	0720 0040E	Retaining Ring - M4	

10.Paper Feed Section (A224)

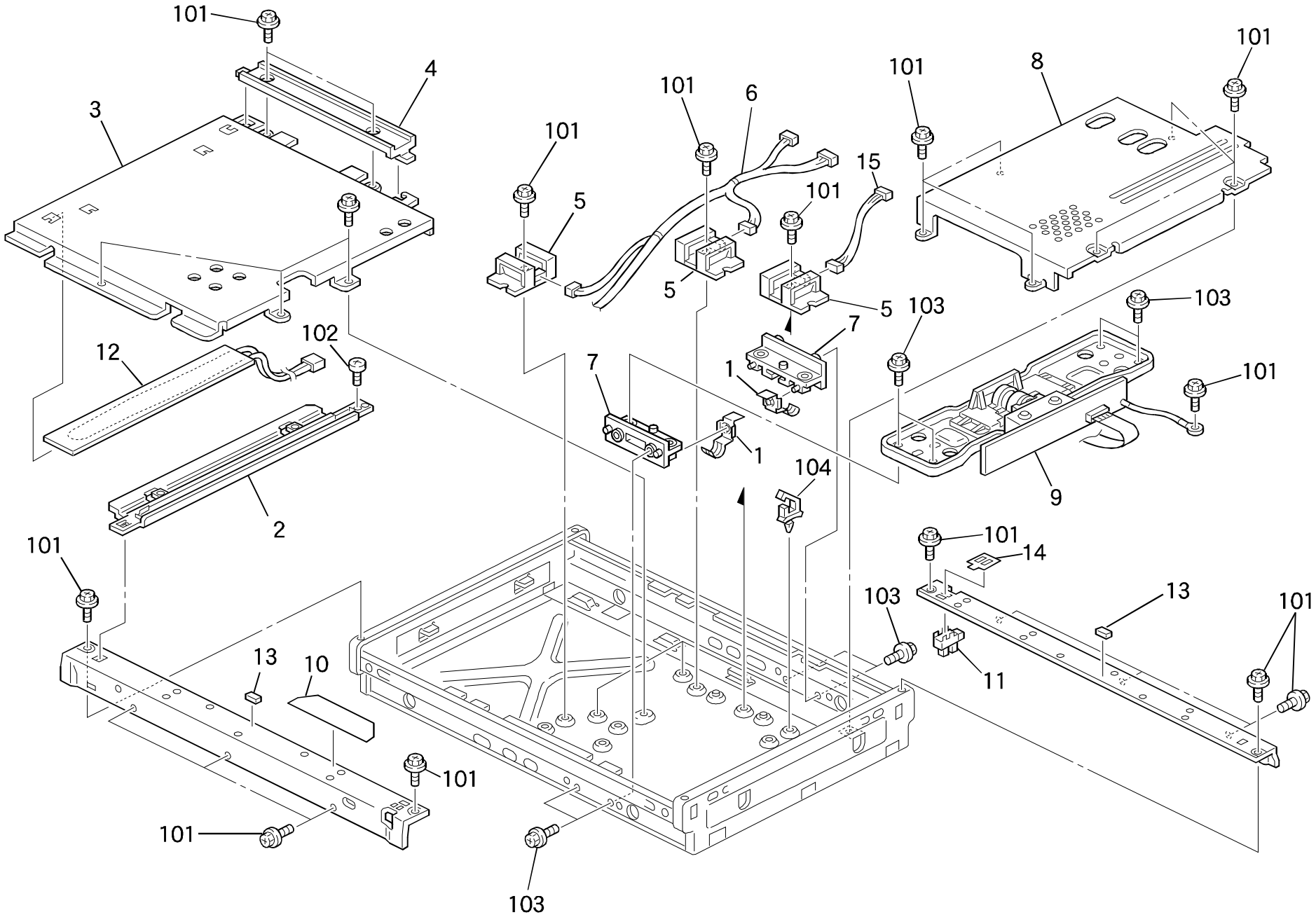


10.Paper Feed Section (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 2587	Bushing - Paper Feed	2
2	G020 1096	Right Shielding Plate	1
3	G020 2655	Upper Front Guide - Paper Tray	2
4	G020 2654	Upper Rear Guide - Paper Tray	2
5	G697 1261	Magnetic Catch Bracket	4
6	G020 2762	Lower Transport Guide	1
7	G020 2554	Paper Feed Roller Ass'y	1
8	A224 2564	Relay Roller	1
9	G020 2589	Bracket - Vertical Transport Sensor	1
10	G020 2584	Photointerruptor	1
11	G020 2610	Left Vertical Transport Guide	1
12	G020 2612	Vertical Relay Guide	2
13	G020 2616	Bracket - Microswitch	1
14	G020 5408	Harness - Transport Sensor	1
15	G020 2618	Stay - Paper End Sensor	1
16	G020 2632	Guide Plate - Vertical Transport	1
17	A048 2838	Nylon Rivet	1
18	G020 2643	Front Grounding Plate - Paper Tray	2
19	G020 2626	Release Spring - Paper End Feeler	1
20	AW02 0075	Photointerrupter	1
21	A224 5409	Harness - Paper End Sensor	1
22	G020 1113	Relay Roller Clutch	1
23	G020 2580	Paper End Sensor Bracket	1
24	G020 2622	Release Arm - Paper End Feeler	1
25	G020 2615	Microswitch	1
26	**G020 2555**	**Paper Feed Roller**	**2**
27	A193 9800	Tray Heater - 115V	1
27	A193 9801	Tray Heater - 230V	1
28	G020 2565	Paper Guide	4
29	G020 2586	Rear Pin - Paper Feed Roller	1
30	G020 2585	Front Pin - Paper Feed Roller	1
31	G020 2570	Shaft - Paper Feed Roller	1
32	G020 2625	Holder - Vertical Transport Guide	1
33	AG07 0012	Magnet	2
34	AF02 0283	Pressure Roller	4

Index No.	Part No.	Description	Q'ty Per Assembly
35	G020 2635	Spring Plate - Driven Roller	8
36	A224 2554	Cover - Paper Feed	1
37	5415 2578	Spacer - 6x14x3mm	2
38	A224 2596	Cover - Paper End Sensor	1
39	5447 2681	Snap Ring	1
40	G020 2581	Paper End Feeler	1
101	0451 3006B	Tapping Screw - M3x6	
102	0805 3480	Bushing - 6mm	
103	0720 0040E	Retaining Ring - M4	
104	0451 3008B	Tapping Screw - M3x8	
105	0242 0080B	Philips Pan Head Screw - M2 X 8	

11.Optics Section 1 (A224)

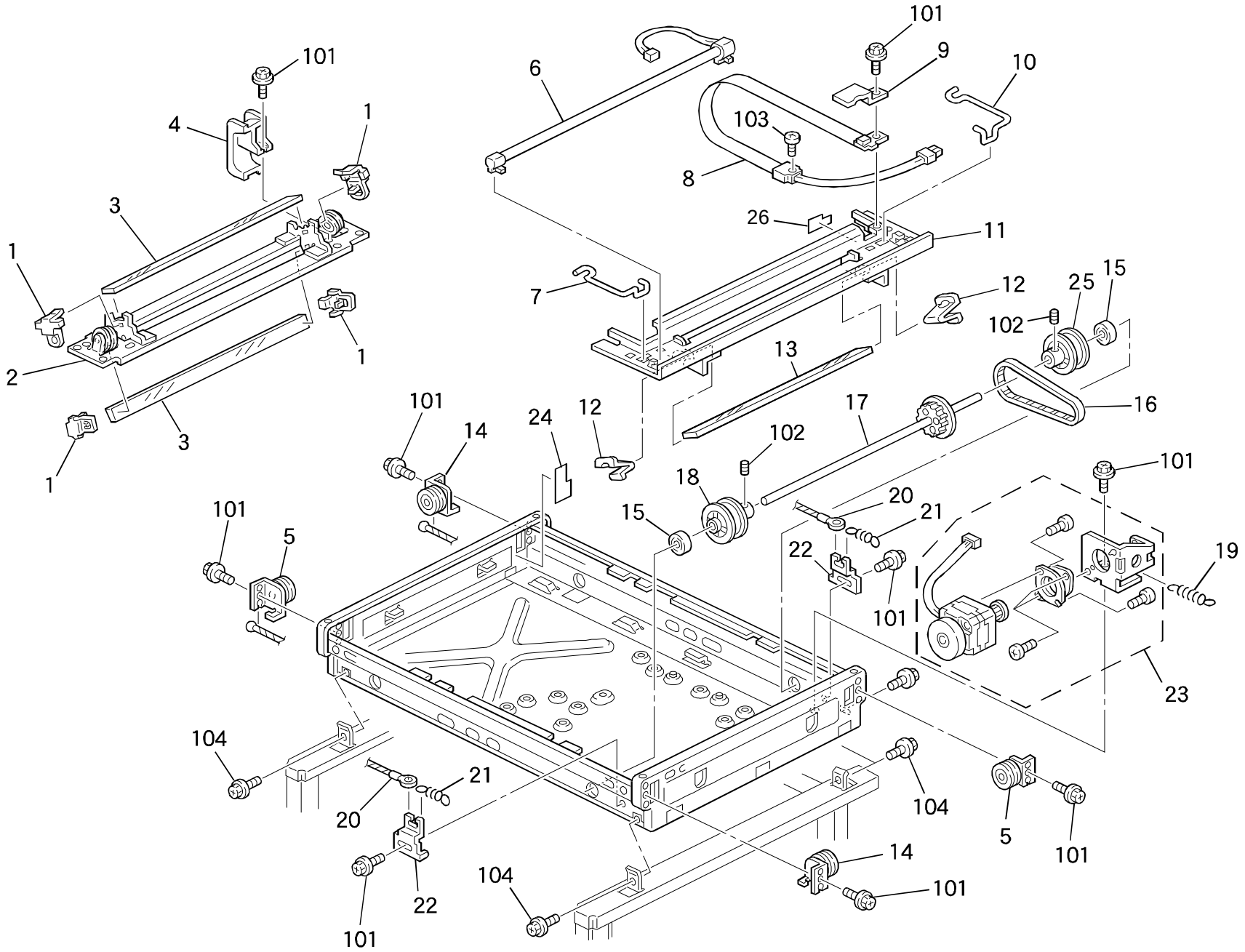


11.Optics Section 1 (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A193 1790	Grounding Plate - Lens Block	1
2	A193 1754	Bracket - Left Origial Scale	1
3	A193 1824	Left Inner Cover - Scanner Unit	1
4	A193 1781	Lower Harness Guide	1
5	A193 5906	Original Sensor	3
6	A224 5414	Harness - Scanner Unit	1
7	A193 1826	Lens Block Holder	2
8	A193 1689	Right Inner Cover	1
9	A193 1673	Lens Holder Ass'y	1
10	A193 1819	Front Seal - Scanner Frame	1
11	AW02 0075	Photointerrupter	1
12	AX40 0089	Anticondensation Heater - 230V	1
12	AX40 0088	Anticondensation Heater - 115V	1
13	5442 1924	Exposure Glass Cushion	1
14	A193 1793	Scanner Home Sensor Stopper	1
15	A193 5401	Harness - Original Sensor (230V)	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	
102	0353 0050F	Tapping Screw - M3x5	
103	0450 3010B	Tapping Screw - M3x10	
104	1105 0460	Clamp	

12.Optics Section 2 (A224)

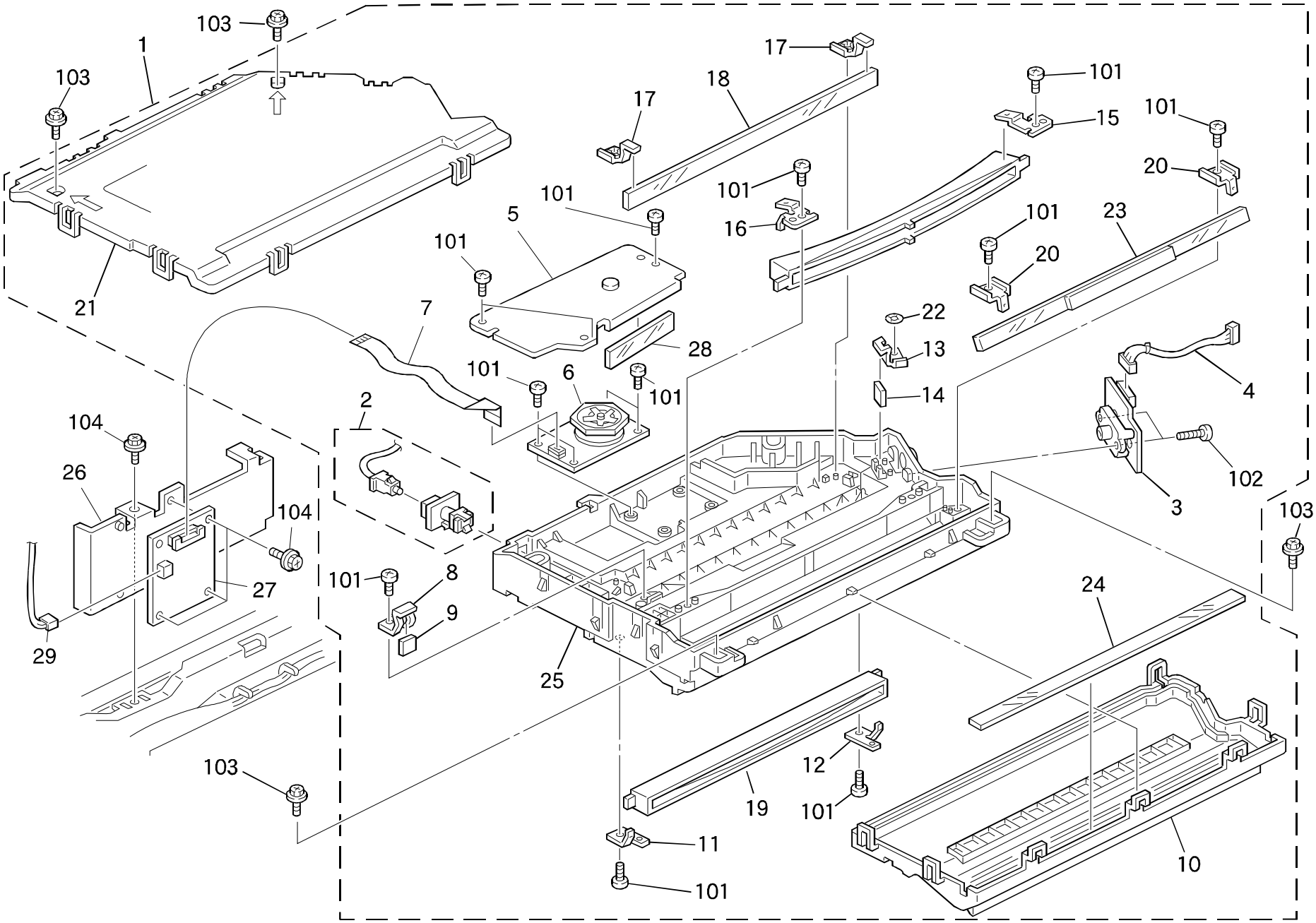


12.Optics Section 2 (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A193 1777	2nd/3rd Mirror Holder	4
2	A193 1770	2nd Scanner Ass'y	1
3	A193 1669	2nd/3rd Mirror	2
4	A193 1776	Upper Harness Guide	1
5	A193 1841	Pulley - Front Left	2
6	A193 5702	Exposure Lamp	1
7	A193 1766	Wire Clamp	1
8	A193 5703	Exposure Lamp Harness	1
9	A193 1799	Harness Guide - Exposure Lamp	1
10	A193 1769	Clamp - Rear Wire	1
11	A193 1760	1st Scanner Ass'y	1
12	A193 1767	1st Mirror Holder	2
13	A193 1764	1st Mirror	1
14	A193 1845	Pulley - Rear Left	2
15	A193 1829	Ball Bearing - M8	2
16	A193 1840	Timing Belt - L220 B8	1
17	A193 1682	Scanner Drive Pulley Ass'y	1
18	A193 1832	Front Scanner Pulley	2
19	A193 1784	Tension Spring	1
20	A193 1838	Scanner Drive Wire	2
21	A193 1783	Tension Spring	2
22	A193 1849	Tension Bracket	2
23	A193 1690	Scanner Motor - DC 6W	1
24	A193 1798	Seal - Side Plate	1
25	A193 1831	Rear Scanner Pulley	1
26	A193 1796	Secal - Carriage	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	
102	0575 0050E	Hexagon Headless Set Screw - M5x5	
103	0453 3014B	Taping Screw - M3x14	
104	0451 3008B	Tapping Screw - M3x8	

13.Laser Unit (A224)

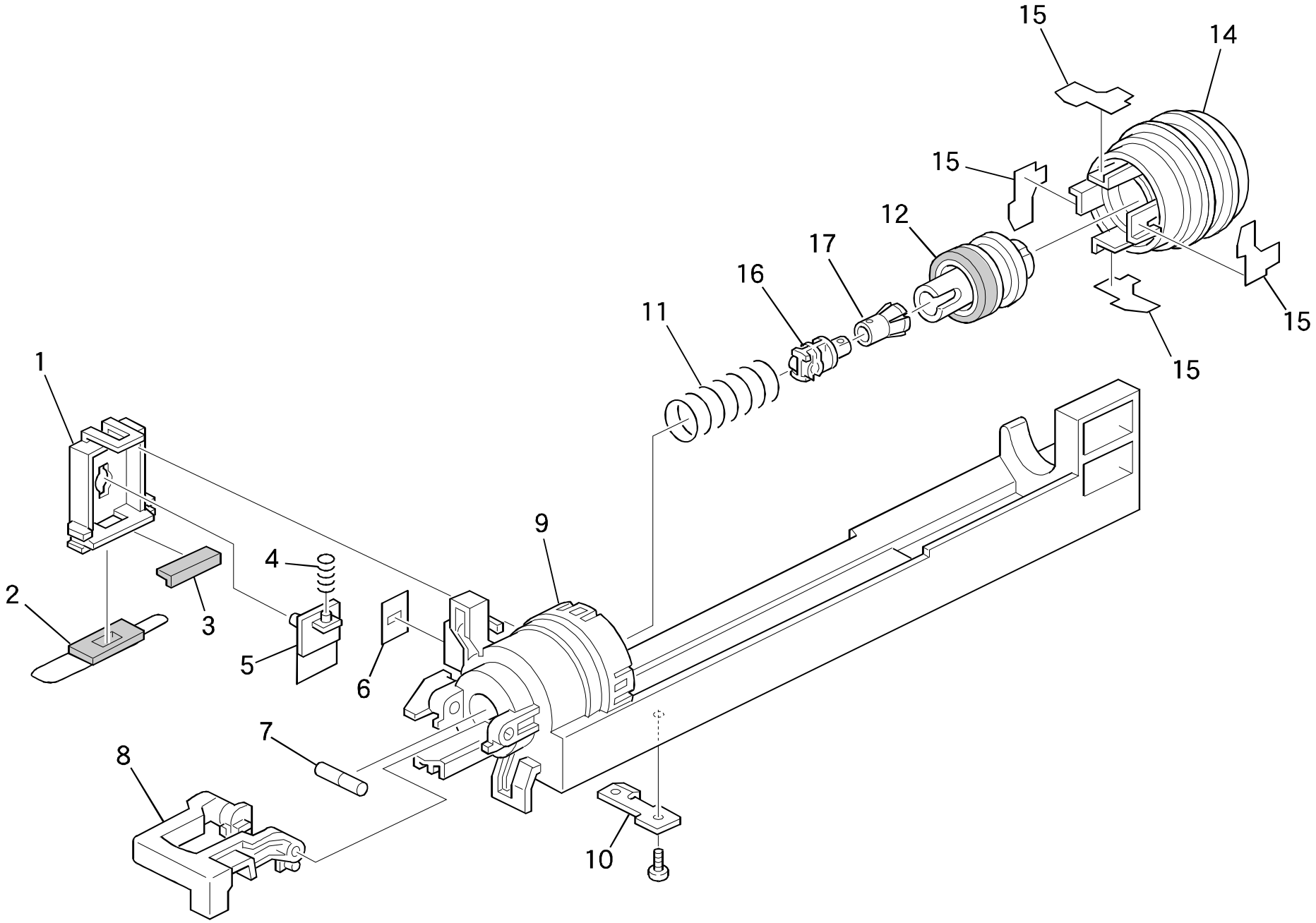


13.Laser Unit (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A224 1853	Laser Unit Ass'y (115V)	1
1	A224 1855	Laser Unit Ass'y (230V)	1
2	G020 1912	Sync Detector	1
3	A224 1861	LD Unit (115V)	1
3	A224 1865	LD Unit (230V)	1
4	A193 5742	LD Unit Harness (115V)	1
4	A193 5220	LD Unit Harness (230V)	1
5	G020 1952	Cover - Polygon Motor	1
6	G020 1942	Polygon Mirror Motor	1
7	G020 5234	Relay Harness -Polygon Mirror Drive	1
8	G020 1915	Sync Detector Mirror Holder	1
9	G020 1911	Sync Detector Mirror	1
10	G020 1902	Lower Cover - Laser Unit	1
11	G020 1903	Right Holder - BTL Lens	2
12	G020 1904	Left Holder - BTL Lens	1
13	G020 1905	Cylindrical Lens Holder	1
14	G020 1966	Cylindrical Lens	1
15	G020 1906	Left Holder - F Theta Mirror	1
16	G020 1907	Right Holder - F Theta Mirror	1
17	G020 1908	1st Mirror Holder	2
18	G020 1964	1st Mirror - Laser Unit	1
19	G020 1969	BTL Lens	1
20	G020 1909	2nd Mirror Holder	2
21	G020 1940	Laser Unit Cover (230V)	1
21	G020 1941	Laser Unit Cover (115V)	1
22	G020 1923	CS Ring - M2.4	1
23	G020 1928	2nd Mirror - Laser Unit	1
24	G020 1962	Shield Glass	1
25	G020 1924	Housing - Laser Unit	1
26	G020 1939	Bracket - Polygon Motor Driver	1
27	G020 1943	Polygon Motor Driver	1
28	G020 1877	Shield Glass	1
29	A224 5438	Harness - Polygon Mirror Motor	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0452 3008B	Tapping Screw - M3x8	
102	0452 3010B	Tapping Bind Screw - M3x10	

14.Toner Hopper Unit (A224)

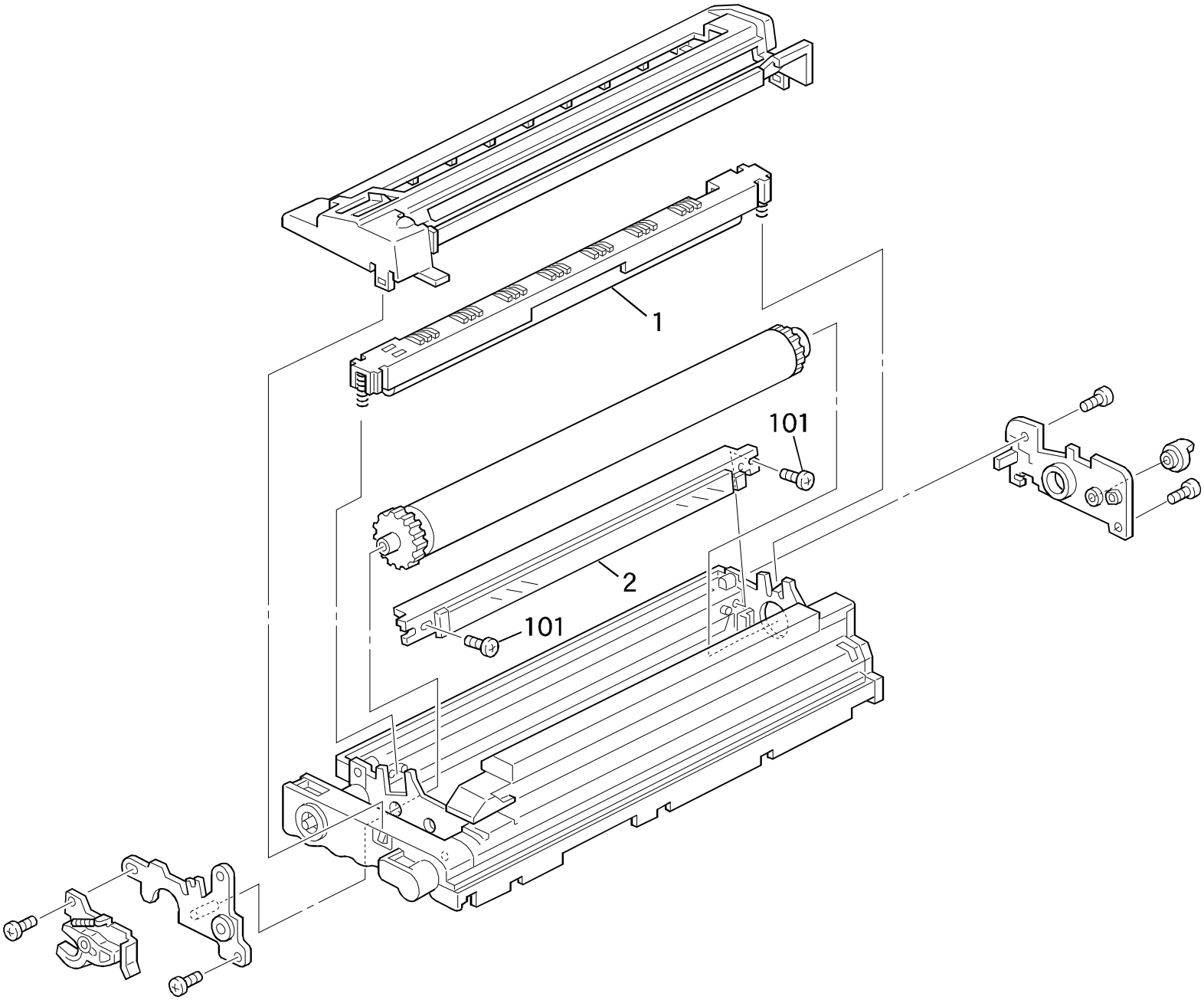


14.Toner Hopper Unit (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 3311	Cover - Toner Supply	1
2	G020 3340	Lower Seal - Toner Supply	1
3	G020 3345	Right Seal	1
4	G020 3313	Spring	1
5	G020 3317	Shutter - Toner Supply	1
6	G020 3312	Gate - Toner Supply	1
7	A184 3422	Toner Slider	1
8	G020 3339	Handle - Toner Supply	1
9	A224 3314	Toner Supply Unit	1
10	G020 3320	Hook - Toner Supply Unit	1
11	A184 3411	Chuck Spring	1
12	G020 3334	Slider Ass'y	1
14	G020 3322	Cover - Toner Supply Unit	1
15	G020 3325	Sheet - Agitator	4
16	A184 3421	Chuck Shaft	1
17	A184 3420	Bottle Chuck	1

Index No.	Part No.	Description	Q'ty Per Assembly

15.P.C.U. (A224)

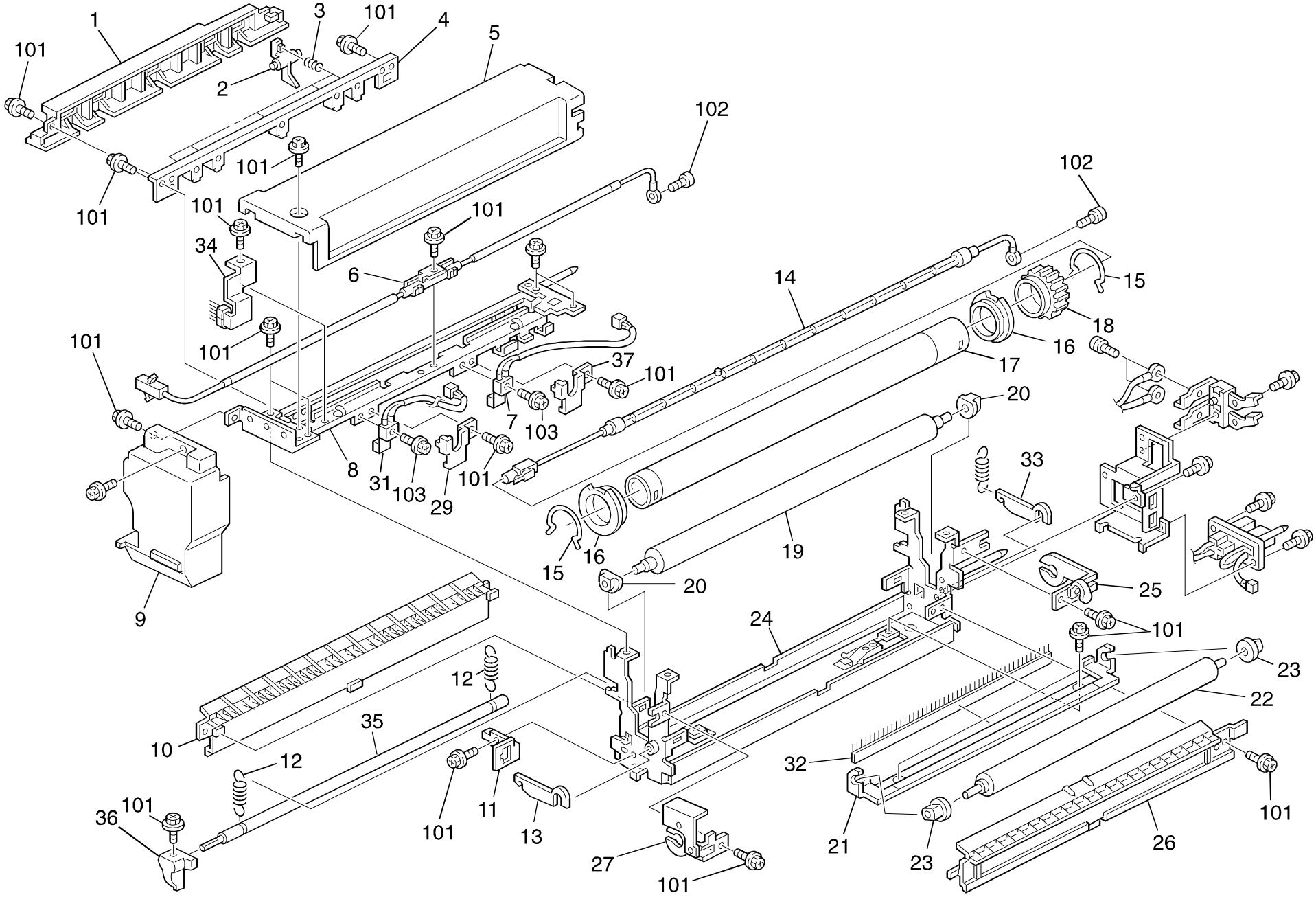


15.P.C.U. (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 2020	Charge Roller Ass'y	1
2	G020 3550	Cleaning Blade	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0452 3008B	Tapping Screw - M3x8	

16.Fusing Unit (A224)

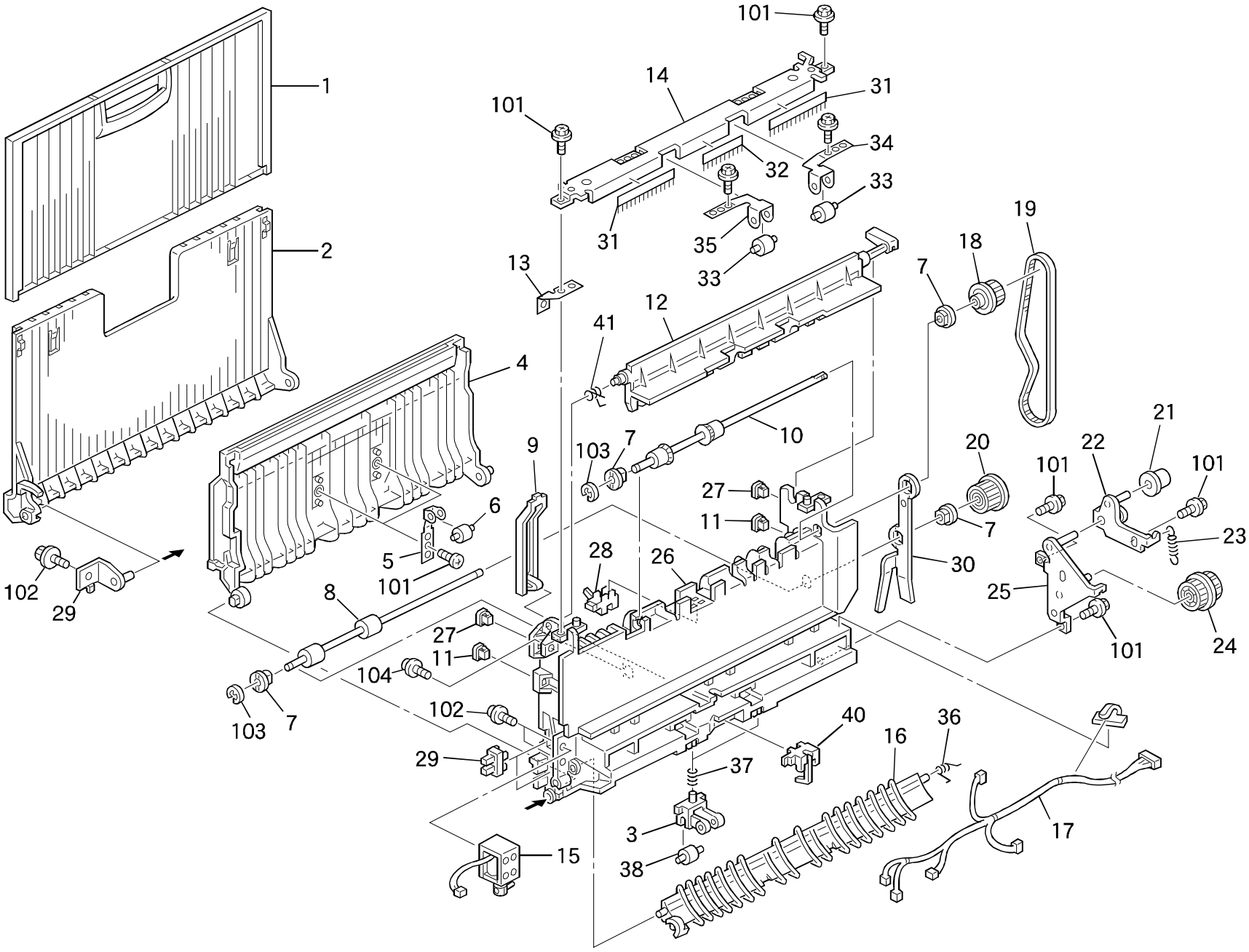


16.Fusing Unit (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
*	G020 4017	Fusing Unit Ass'y (115V)	1
*	G020 4027	Fusing Unit Ass'y (230V)	1
1	G020 4149	Upper Exit Guide - Fusing Unit	1
2	**G020 4178**	**Hot Roller Stripper**	**5**
3	G020 4193	Spring - Hot Roller Stripper	5
4	G020 4179	Bracket - Hot Roller Stripper	1
5	G020 4129	Upper Fusing Cover	1
6	G020 4133	Thermofuse - 169°C	1
7	G020 4185	Fusing Thermistor	1
8	A224 4130	Stay Fusing Unit	1
9	G020 4294	Front Fusing Cover	1
10	G020 4247	Lower Exit Guide - Fusing Unit	1
11	G020 4152	Connector Bracket - Fusing Unit	1
12	G020 4291	Tension Spring	2
13	G020 4243	Front Pressure Lever - Fusing Unit	2
14	A193 4187	Fusing Lamp - 120V 800W	1
14	A193 4188	Fusing Lamp - 230V 700W	1
15	0725 0200E	C-Ring - Hot Roller	2
16	A224 4173	Ball Bearing - 20x32x7	2
17	**A224 4170**	**Hot Roller**	**1**
18	A224 4177	Gear - Hot Roller	1
19	**G020 4280**	**Pressure Roller**	**1**
20	G020 4175	Bushing - Pressure Roller	2
21	A224 4112	Bracket Cleaning Roller	1
22	AE04 2009	Cleaning Roller	1
23	G020 4176	Bushing - Cleaning Roller	2
24	A224 4141	Fusing Unit Frame	1
25	G020 4159	Rear Holder - Fusing Lamp	1
26	G020 4246	Lower Entrance Guide	1
27	G020 4160	Front Heater Holder	1
28	G020 4183	Fusing Unit Harness (115V)	1
28	G020 4184	Fusing Unit Harness (230V)	1
29	G020 4151	Bracket - Fusing Connector	1
30	G020 4163	Heater Socket	1
31	G020 4285	Thermistor	1

Index No.	Part No.	Description	Q'ty Per Assembly
32	**AA12 0005**	**Antistatic Brush**	**1**
33	G020 4244	Rear Pressure Lever - Fusing Unit	1
34	A224 4136	Antistatic Brush - Hot Roller	1
35	G020 4293	Shaft	1
36	G020 4292	Lever - Shaft	1
37	G020 4287	Cover - Thermistor	1
101	0451 3006B	Tapping Screw - M3x6	
102	0950 4006M	Philips Screw With Flat Washer - M4x6	
103	0451 3010B	Tapping Screw - M3x10	

17.Paper Exit Section (A224)

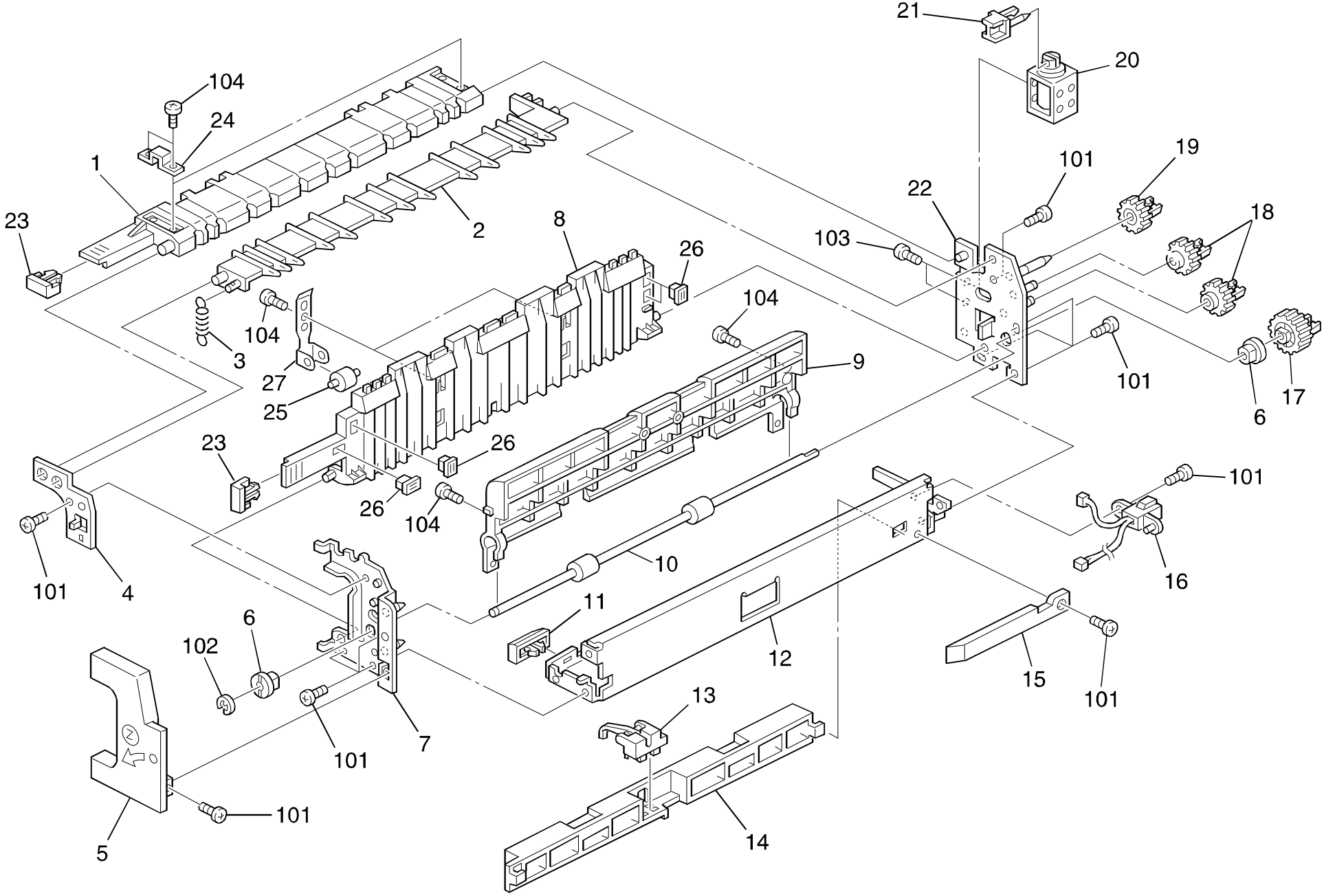


17.Paper Exit Section (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 4423	Sub Copy Tray - FU	1
2	G020 4419	Left Cover Tray	1
3	G020 4463	Roller Holder	2
4	G020 4452	Right Vertical Guide	1
5	G020 4446	Spring Plate - Roller	2
6	G012 4865	Exit Roller	2
7	G020 4466	Bushing - M6	4
8	G020 4426	Exit Relay Roller	1
9	G020 4465	Harness Cover	1
10	G020 4427	Exit Roller - FD	1
11	G012 1531	Magnet	2
12	G020 4411	Paper Exit Pawl	1
13	G020 4453	Grounding Plate	1
14	G020 4468	Stay - FD	1
15	G020 4439	Junction Gate Solenoide - FD	1
16	G020 4424	Junction Gate - FU	1
17	G020 5402	Harness - Paper Exit	1
18	G020 4436	Pulley - 28Z	1
19	G020 4437	Timing Belt - B60S2M-386	1
20	G020 4435	Pulley - 32Z	1
21	G020 4444	Tightener	1
22	G020 4333	Tightener - 1bin Sorter	1
23	G020 4440	Tension Spring	1
24	G020 4447	Pulley - 44Z	1
25	G020 4332	Rear Stud - 1bin Sorter	1
26	G020 4409	Guide Plate - Feed Down	1
27	A049 3371	Magnet	2
28	G020 4429	Exit Sensor	1
29	AW02 0075	Photointerrupter	1
30	G020 4481	Grounding Plate - Exit Roller	1
31	G020 4483	Antistatic Brush - FD	2
32	G020 4374	Middle Antistatic Brush - FD	1
33	G020 4390	Exit Roller	2
34	G020 4471	Rear Spring Plate - Driven Roller	1
35	G020 4470	Front Spring Plate - Driven Roller	1

Index No.	Part No.	Description	Q'ty Per Assembly
36	G020 4467	Tension Spring	1
37	G020 4431	Pressure Spring	2
38	AF04 0031	Upper Exit Roller	2
39	G020 1710	Exit Tray Holder	1
40	G020 4472	Paper Feed Sensor	1
41	G020 4455	Spring	1
101	0450 3008B	Tapping Screw - M3x8	
102	0957 3008B	Philips Screw	
103	0720 0040E	Retaining Ring - M4	
104	0451 3006B	Tapping Screw - M3x6	

18.Inverter Unit

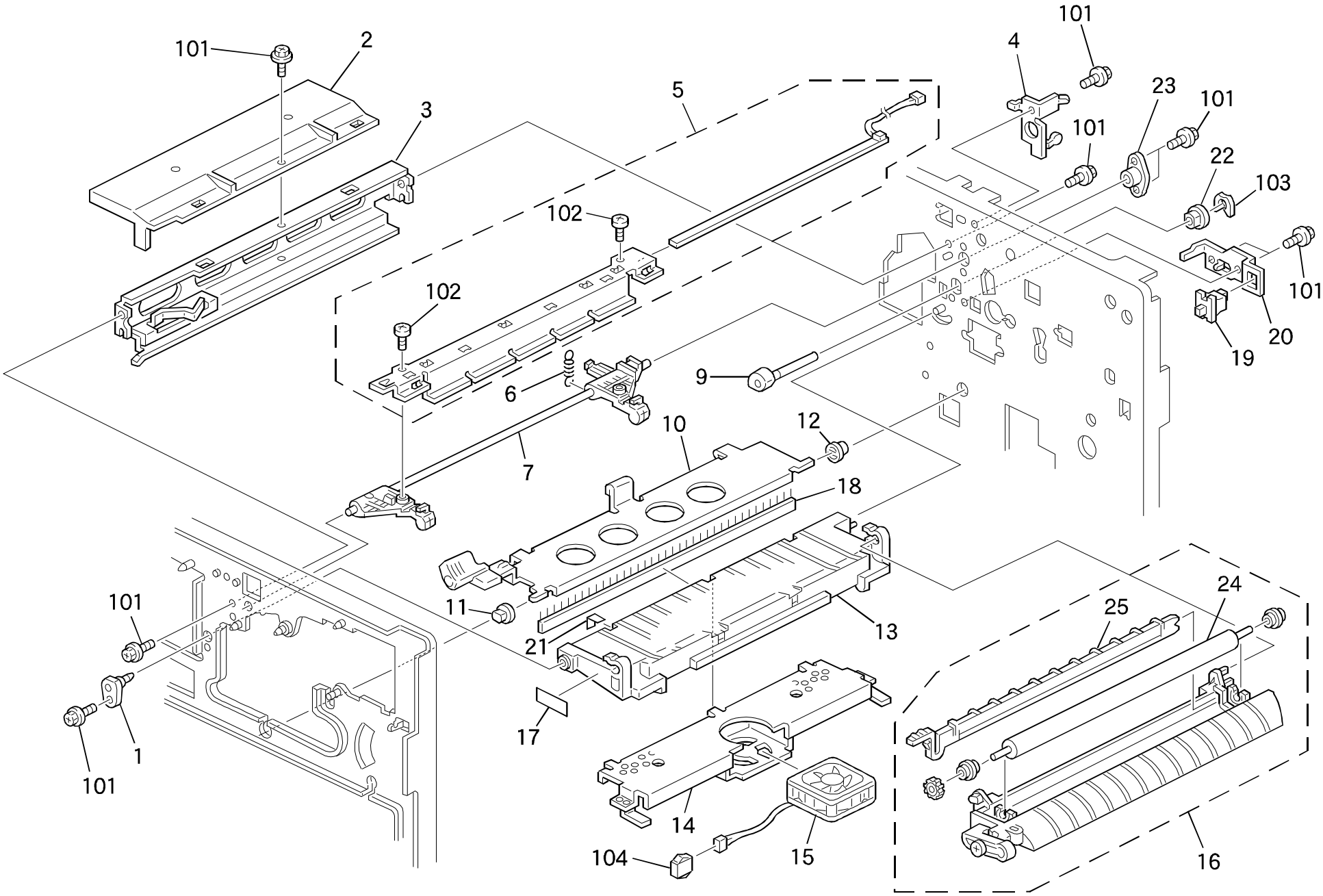


18.Inverter Unit

Index No.	Part No.	Description	Q'ty Per Assembly
1	G694 4639	Transport Guide Plate	1
2	G694 4638	Junction Gate	1
3	G694 4647	Junction Gate Spring	1
4	G694 4646	Front Holder	1
5	G694 4648	Inverter Unit Cover	1
6	G020 4479	Bushing - 6mm	2
7	G694 4660	Front Side Plate	1
8	G694 4634	Left Guide Plate	1
9	G694 4636	Right Guide Plate - Upper	1
10	G694 4640	Inverter Roller	1
11	G694 4673	Left Guide	1
12	G694 4670	Frame - Inverter Unit	1
13	G020 4490	Paper Exit Sensor	1
14	G694 4671	Right Guide Plate - Lower	1
15	G694 4672	Right Guide	1
16	G694 5470	Inverter Unit Harness	1
17	G694 4641	Gear - 24Z	1
18	G694 4643	Gear - 18Z	2
19	G694 4642	Gear - 17Z	1
20	G020 4425	DC Solenoid	1
21	G694 4645	Junction Gate Lever	1
22	G694 4650	Rear Side Plate	1
23	G020 4492	Knob - Guide Plate	2
24	G020 4493	Magnet	2
25	AF04 0031	Upper Exit Roller	2
26	G012 1531	Magnet	4
27	G020 4491	Roller Holder	2

Index No.	Part No.	Description	Q'ty Per Assembly
101	0453 3008B	Tapping Screw - M3x8	
102	0720 0040B	Retaining Ring - M4	
103	0313 0040B	Philips Pan Head Screw - M3x4	
104	0452 3008B	Tapping Screw - M3x8	

19.Transport Section 1 (A224)



19.Transport Section 1 (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 3888	Pin - Transfer Guide	1
2	G020 1106	Right Duct	1
3	G020 1098	Stay - OPU	1
4	G020 1194	Bracket - Fusing Drive Gear	1
5	G020 2160	Quenching Lamp	1
6	G020 2103	Tension Spring	1
7	G020 2170	Pressure Lever - Charge Roller	1
9	G020 2121	Cam - Charge Roller	1
10	G020 3910	Stay - Transfer Unit	1
11	G020 3914	Bushing - Front Transfer Unit	1
12	G020 3915	Bushing - Rear Transfer Unit	1
13	G020 3880	Transport Guide Plate	1
14	G020 3882	Grounding Plate - Transfer Guide	1
15	G020 3887	Fan Motor - DC 3.12W	1
16	**A673 3880**	**Transfer And Separation Unit**	**1**
17	G020 4128	Decal - High Temparature	1
18	G020 3897	Discharge Brush - Transport	1
19	G020 5626	Push Switch	1
20	G020 5817	Bracket - OPU Switch	1
21	G020 3896	Grounding Plate - Discharge Brush	1
22	AA08 2070	Bushing - 8x16x7	1
23	G020 2106	Bushing - Pressure Lever	1
24	G020 3852	Transfer Roller	1
25	**A193 3870**	**Discharge Brush**	**1**

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	
102	0452 3008B	Tapping Screw - M3x8	
103	0805 0088	Retaining Ring - M6	
104	1102 6245	Connector - 2p	

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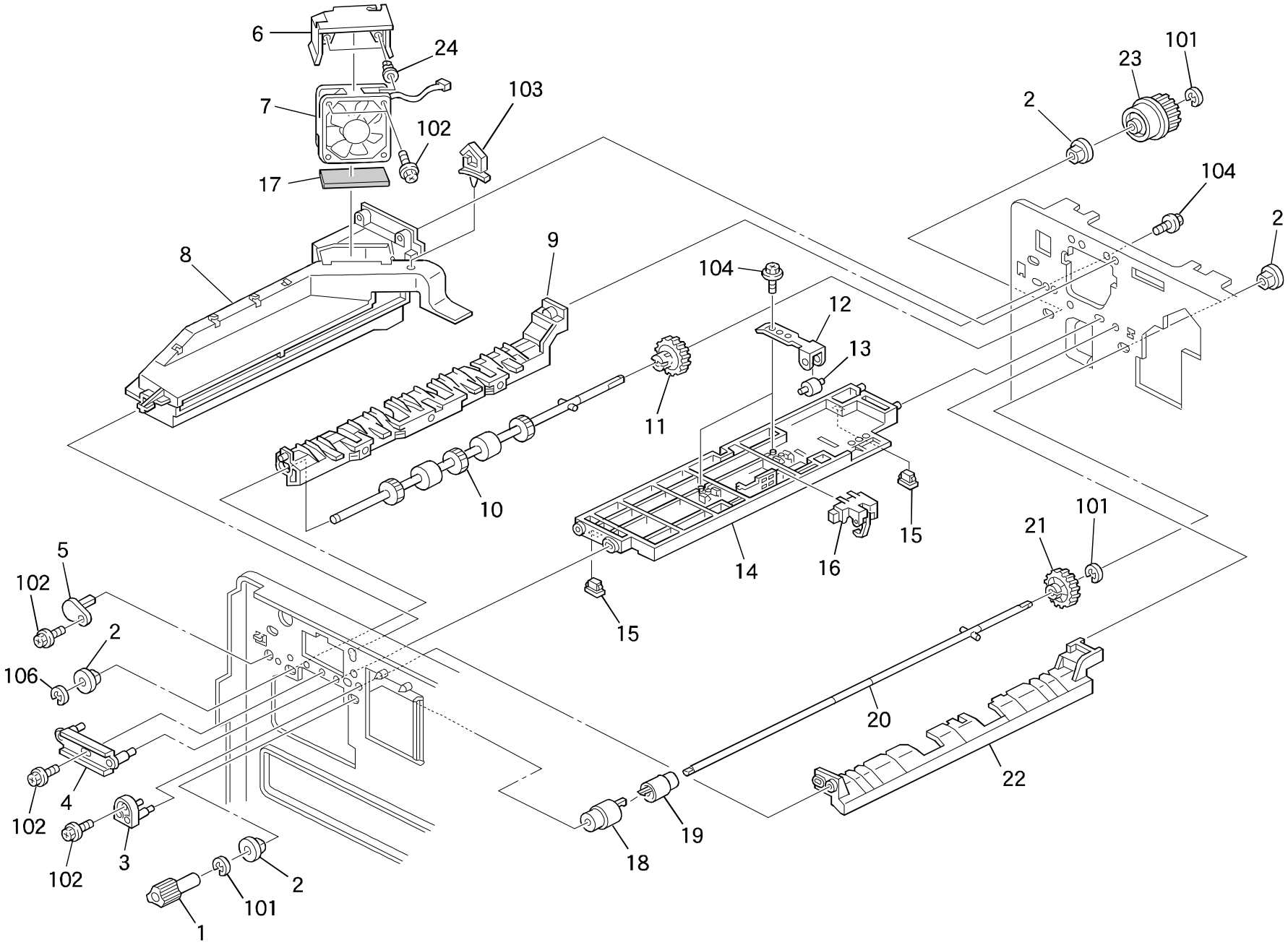
20.Transport Section 2 (A224)

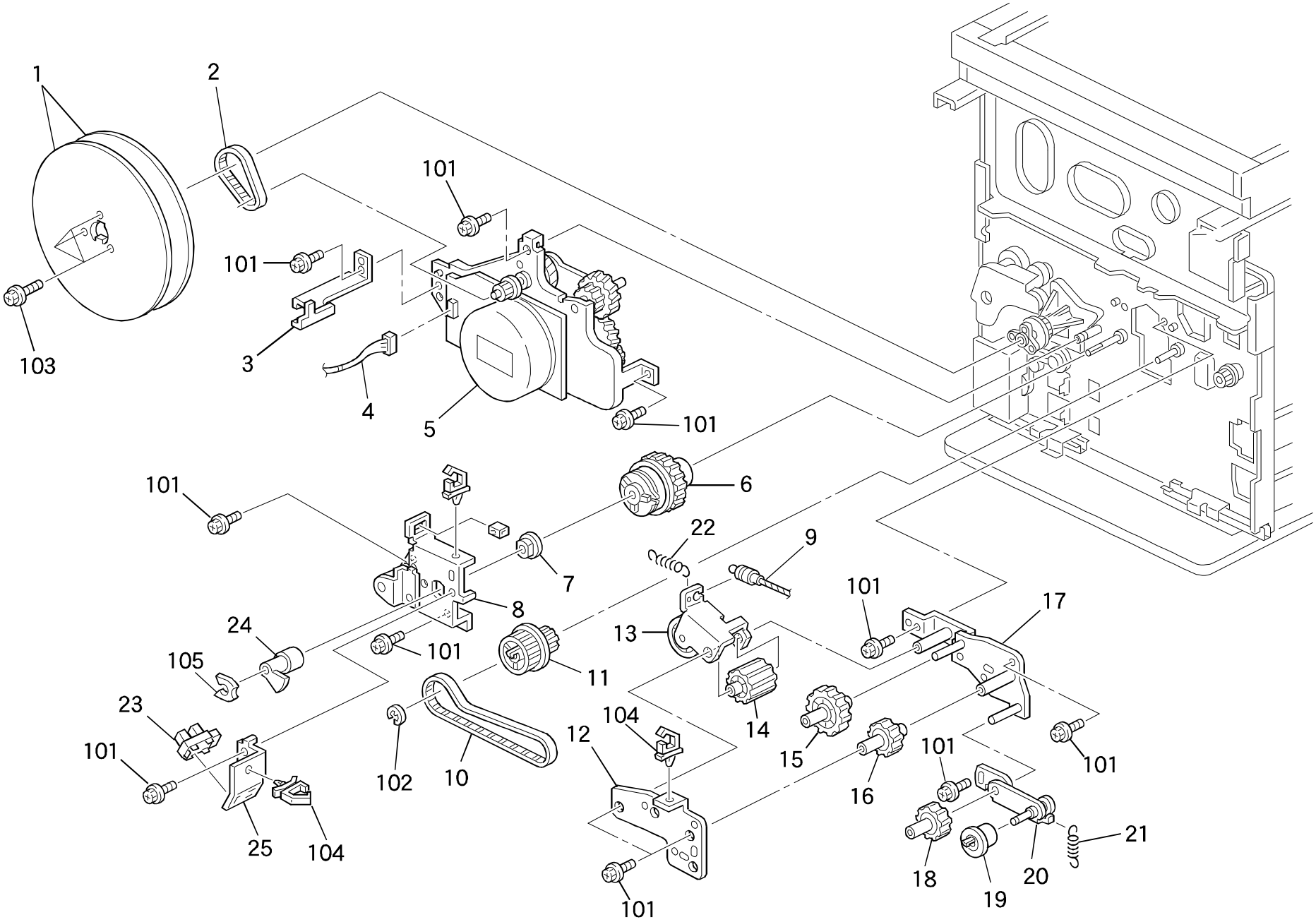


20.Transport Section 2 (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 4480	Fusing Knob	1
2	G020 4479	Bushing - 6mm	4
3	G020 4477	Support Bracket - Transport Plate	1
4	G020 4476	Guide Plate Holder	1
5	G020 4331	Front Stud - 1bin Sorter	1
6	G020 1104	Fan Motor Holder	1
7	AX64 0058	Fan Motor - DC 24V 4.32W	1
8	A224 1100	Duct	1
9	G020 4459	Relay Guide - Transport Roller	1
10	G020 4414	Transport Roller Ass'y	1
11	G020 4487	Gear - 26Z	1
12	G020 4491	Roller Holder	2
13	AF04 0031	Upper Exit Roller	2
14	G020 4473	Upper Transport Guide	1
15	G012 1531	Magnet	2
16	G020 4472	Paper Feed Sensor	1
18	G020 4457	Transport Roller - 1	1
19	G020 4458	Transport Roller 2	1
20	G020 4413	Shaft - Transport Roller	1
21	G020 4489	Gear - 24Z	1
22	G020 4475	Guide Plate - Transport	1
23	G020 4382	Pulley 40z	1
24	G020 1107	Nut - M4	1
25	G020 1105	Cushion - Fan Motor	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0720 0040E	Retaining Ring - M4	
102	0451 3006B	Tapping Screw - M3x6	
103	1105 0310	Wire Clamp	
104	0450 3008B	Tapping Screw - M3x8	

21.Drive Section 1 (A224)

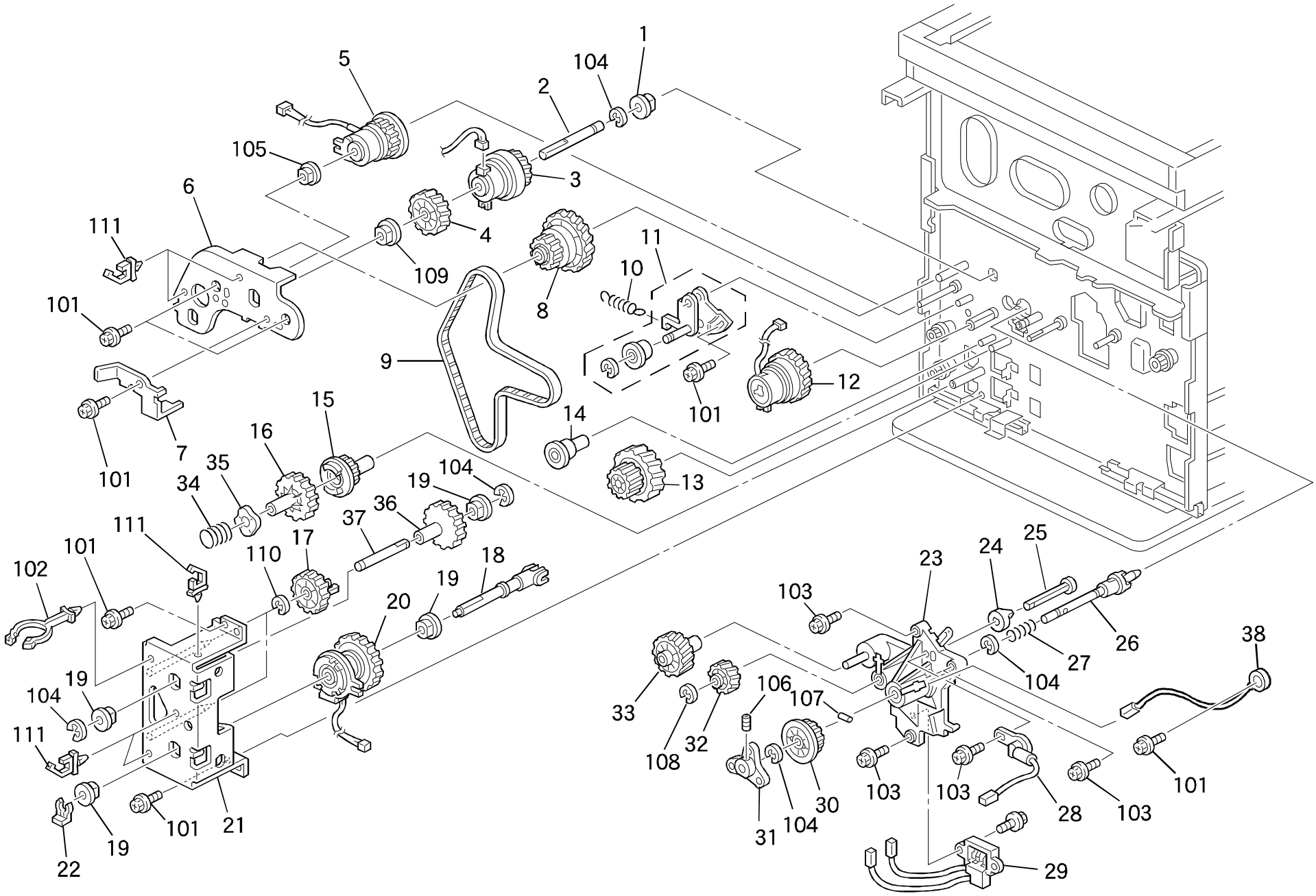


21.Drive Section 1 (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 1189	Fly Wheel	2
2	G020 1187	Timing Belt - S2M 158MM	1
3	A193 5865	Stand - IOB	1
4	G020 5434	Harness - Main Motor (115V)	1
4	A193 5435	Harness - Main Motor (230V)	1
5	G020 1725	Main Motor Ass'y	1
6	G020 1117	Charge Roller Contact Clutch	1
7	AA08 2070	Bushing - 8x16x7	1
8	G020 1796	Bracket - Charge Roller	1
9	G020 5839	Release Wire - Fusing Drive	1
10	G020 4380	Timing Belt - 60S2M296	1
11	G020 4381	Gear/pulley - 20Z/43Z	1
12	G020 1158	Support Bracket - Fusing Drive	1
13	G020 1153	Gear - 40Z	1
14	G020 1157	Gear - 28Z	1
15	G020 1167	Gear - 35Z	1
16	G020 4441	Idle Gear - 27Z	1
17	G020 1150	Fusing Drive Bracket	1
18	G020 4442	Idle Gear - 27Z	1
19	G020 4484	Tightener	1
20	G020 4330	Tightener Bracket	1
21	G020 4449	Spring - Tighlener	1
22	G020 1084	Tension Spring	1
23	AW02 0075	Photointerrupter	1
24	G020 2143	Actuator - Charge Roller Clutch	1
25	G020 2141	Bracket - Charge Roller Contact SN	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	
102	0720 0040E	Retaining Ring - M4	
103	0451 3014B	Tapping Screw - M3-14	
104	1105 0460	Clamp	
105	0805 0088	Retaining Ring - M6	

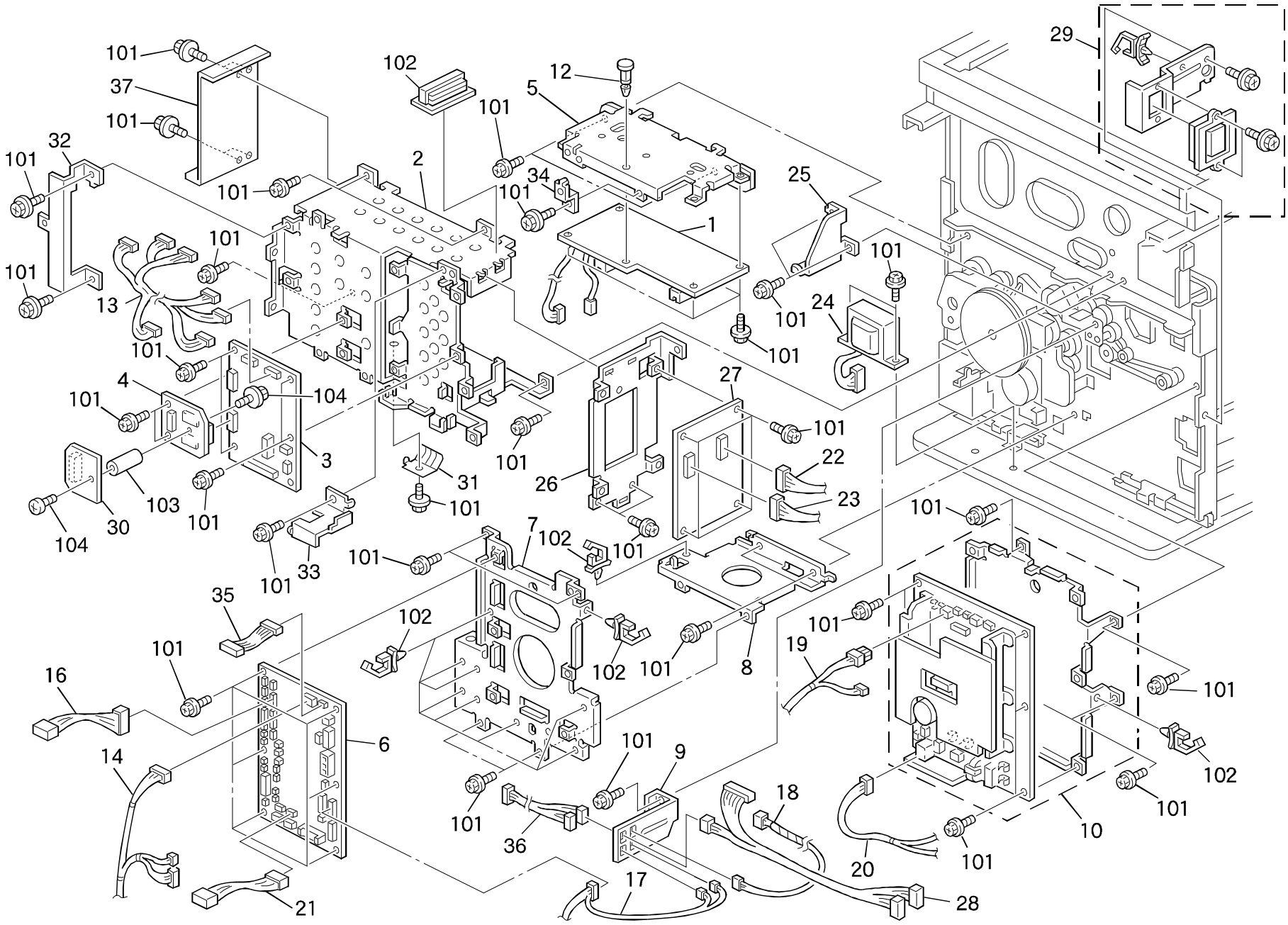
22.Drive Section 2 (A224)



22.Drive Section 2 (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	AA08 2070	Bushing - 8x16x7	1
2	G020 1162	Development Clutch Shaft	1
3	G020 1116	Development Clutch	1
4	G020 1163	Gear - 43Z	1
5	G020 1114	By-pass Feed Clutch	1
6	G020 1165	Development Drive Bracket	1
7	G020 1166	Stopper Bracket - Development Clutch	1
8	G020 1147	Pulley - 65Z/26T	1
9	G020 1720	Timing Belt - S3M-597mm	1
10	G020 1086	Spring - Tightener	1
11	G020 1190	Tightener Bracket Ass'y	1
12	G020 1115	Registration Clutch	1
13	G020 1168	Gear - 52Z/26T	1
14	G020 1146	Belt Tightener	1
15	G020 1721	Timing Pulley - 38T	1
16	G020 1169	Gear - 40Z	1
17	G020 1144	Gear - 27Z	2
18	G020 1145	Shaft - Paper Feed Roller	1
19	G020 1119	Bushing - M8	3
20	G020 1112	Paper Feed Clutch	1
21	G020 1741	Bracket - Paper Feed Clutch	1
22	G020 1160	Snap Ring	1
23	G020 1171	Bracket - Pcu Driver	1
24	G020 1186	Joint Bracket - Development Drive	1
25	G020 1185	Development Drive Shaft	1
26	G020 1180	PCU Drive Shaft	1
27	G020 1183	Pressure Spring	1
28	G020 2110	Terminal - Charge Roller	1
29	G020 3890	Receptacle - Transfer Unit	1
30	G020 1178	Timing Pulley - 51T	1
31	G020 1184	Bracket - Fly Wheel	1
32	G020 1177	Gear - 26Z	1
33	G020 1164	Gear - 37Z	1
34	G020 2682	Spring - 2.4n	1
35	5353 1803	Wave Washer	1
36	A224 1745	Gear - 46z	1
37	A224 1744	Shaft - Gear	1
38	G020 5493	Grounding Wire - Drum	1
101	0451 3006B	Tapping Screw - M3x6	
102	1105 0458	Clamp - LHL-18	
103	0451 3014B	Tapping Screw - M3-14	
104	0720 0060E	Retaining Ring - M6	
105	0805 3385	Bushing - 6mm	
106	0574 0050E	Hexagon Headless Set Screw - M4x5	
107	0633 0120E	Spring Pin - M3x12	
108	0720 0040E	Retaining Ring - M4	

23.Electrical Section 1 (A224)



23.Electrical Section 1 (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A224 5739	Power Pack - BCTD	1
2	A193 5803	Bracket - BICU Board	1
3	A224 5091	BICU Board (115V)	1
3	A224 5092	BICU Board (230V)	1
4	A224 5122	MSU - 4mb	1
5	G020 5870	Bracket - Power Pack	1
6	A224 5105	IOCSS Board (115V)	1
6	A224 5106	IOCSS Board (230V)	1
7	A224 5815	Bracket - IOCSS	1
8	A193 5864	IOB Support Bracket	1
9	A193 5820	Bracket - Harness Guide	1
10	A193 5800	DC Power Supply Board - 115V	1
10	A193 5061	DC Power Supply Board - 220/240V	1
12	G020 5871	Spacer - Kgls-12rf	1
13	A224 5414	Harness - Scanner Unit	1
14	A193 5418	Relay Harness - Scanner Unit (115V)	1
14	A193 5419	Relay Harness - Scanner Unit (230V)	1
16	G020 5404	Harness - PCU Detector	1
17	G020 5412	Harness - Fan Motor	1
18	A193 5474	Harness - Key Counter	1
18	A193 5475	Key Counter Harness (LANIER)	1
19	A193 5452	Harness - Power Supply Board (115V)	1
19	A224 5452	Harness - Power Supply Board (230V)	1
20	A193 5459	Harness - Fusing Lamp (115V)	1
20	A193 5216	Harness - Fusing Lamp (230V)	1
21	G020 5494	Inverter Relay Harness	1
22	A193 5451	DC Harness - Mother Board	1
23	A193 5490	Harness - Mother Board	1
24	AZ02 0010	Choke Coil - 1 0mh-2A	1
25	A193 1072	Harness Clamp Bracket (230V)	1
26	A193 5806	Bracket - Mother Board	1
27	A193 5128	Mother Board	1
28	A193 5497	Harness - Finisher	1
29	A193 5819	Bracket - Finisher	1
30	A224 5130	MSU - 8MB	1

Index No.	Part No.	Description	Q'ty Per Assembly
31	A193 5824	Grounding Plate - PCB (230V)	1
32	A193 5871	Rear Cover Bracket - Right	1
33	A193 5872	Rear Cover Bracket - Middle	1
34	A193 5816	Grounding Plate - Power Pack	1
35	A193 5498	Relay Harness - APS Sensor	1
36	A193 5499	Relay Harness - Finisher 2	1
37	A193 5826	Shield Plate	1
101	0451 3006B	Tapping Screw - M3x6	
102	1607 0644	Ferrite Core - BNC-26	
103	1005 0963	Spacer MP-10	
104	0971 3005	APilips Polycarbonate Screw - M3x5	

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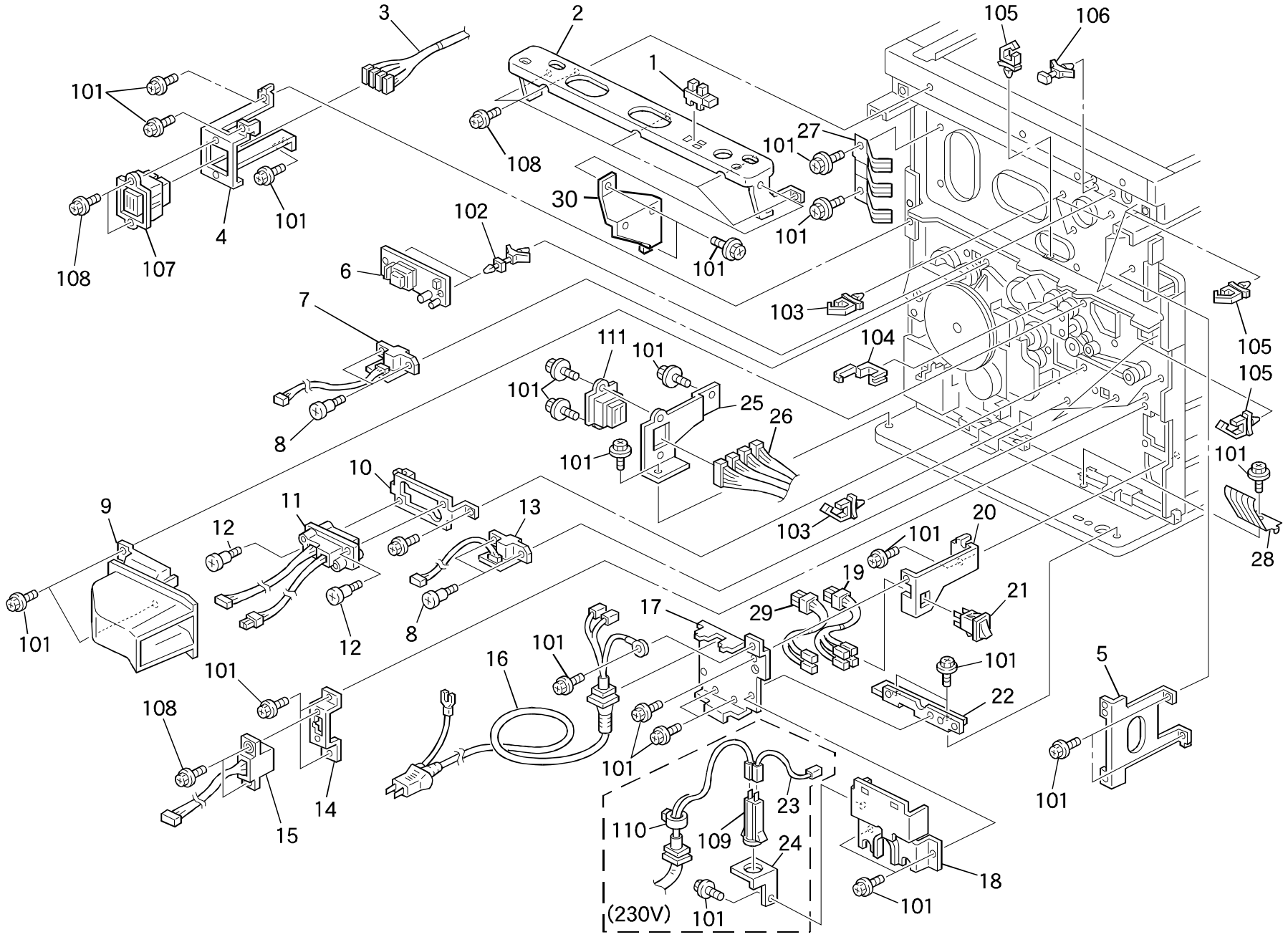
24.Electrical Section 2 (A224)

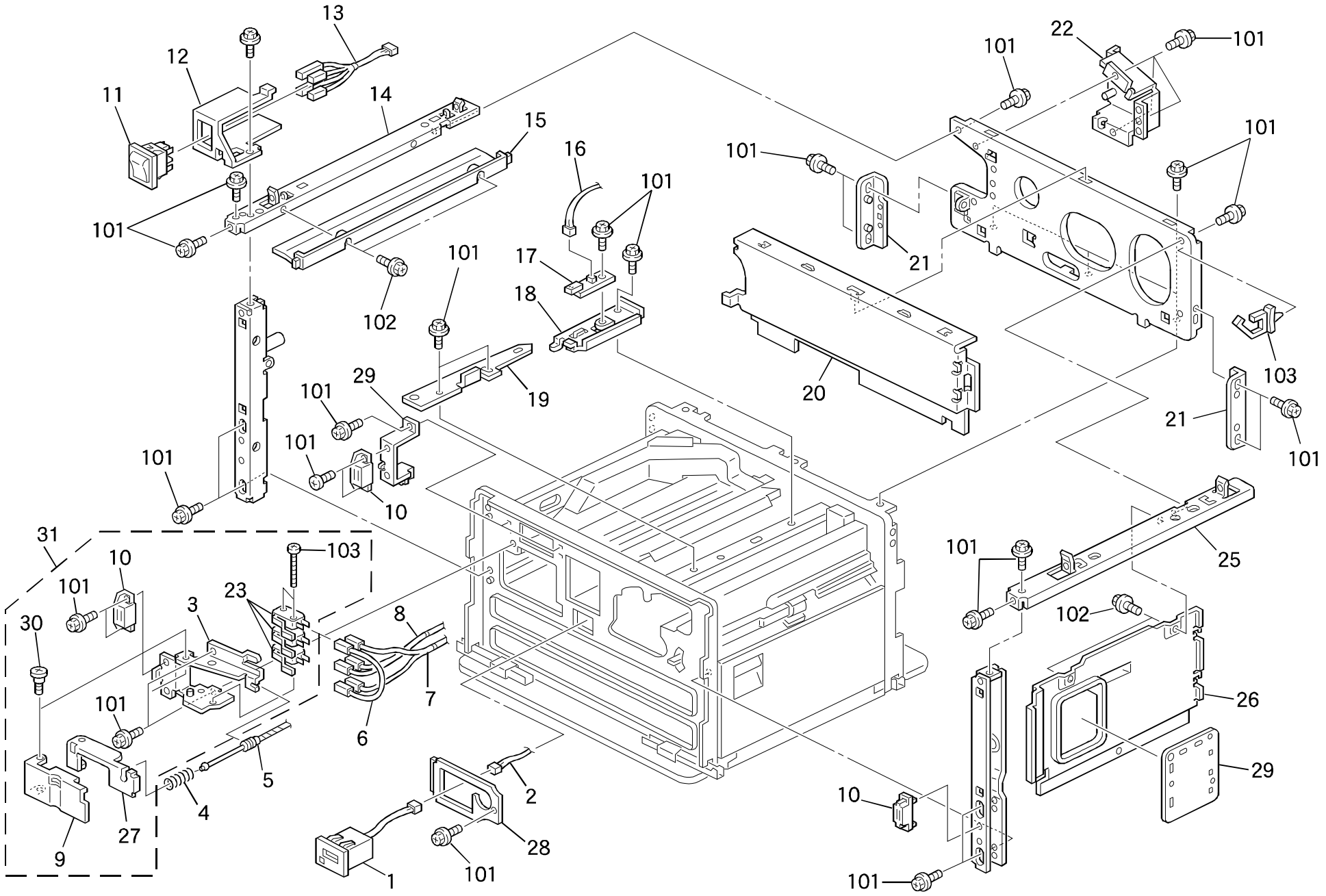


24.Electrical Section 2 (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	AW02 0075	Photointerrupter	1
2	A193 1786	Platen Cover Bracket	1
3	A193 5496	Df Relay Harness	1
4	A193 5808	ADF Connector - Bracket	1
5	A193 1364	Stand Cover	1
6	A193 5730	Atabilizer - Xenon Lamp	1
7	G020 5115	Pcu Relay Board	1
8	G020 5829	Shoulder Screw - M3x2.5	4
9	A193 1101	Rear Duct	1
10	G020 5818	Bracket - Drawer Connector	1
11	A224 5211	Harness - Fusing Unit (115V)	1
11	A224 5214	Harness - Fusing Unit (230V)	1
12	AA14 3301	Stepped Screw - M3x4	1
13	G020 5116	Inverter Unit Connector	1
14	G020 5816	Bracket - Duplex Harness	1
15	G020 5497	Harness - Duplex Unit	1
16	A193 5711	Power Supply Cord	1
16	A193 5712	Power Supply Cord	1
17	A193 5858	Bracket - Power Supply Cord	1
18	A193 5861	Cover - Power Supply Cord	1
19	A224 5457	Harness - Main Swich (230V)	1
19	A193 5457	Harness - Main Swich (115V)	1
20	A193 5862	Stand - Power Supply Cord (115V)	1
20	A224 5862	Stand - Power Supply Cord (230V)	1
21	G020 5616	Main Switch (115V)	1
21	1204 2421	Main Switch (230V)	1
22	G020 5862	Support Bracket - Base	1
23	A193 5215	Harness - Circuit Breaker	1
24	A193 5817	Bracket - Circuit Breaker	1
25	A224 5820	Connector - Bracket - LCT	1
26	A224 5402	Relay Harness - LCIT	1
27	A193 5841	Grounding Plate - Printer	1
28	A193 5837	Grounding Plate - PSU	1
29	A224 5458	Harness - DC Brack-up (230V)	1
30	A193 5870	Bracket - Handset	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	
102	1105 0195	PCB Stud	
103	1105 0291	Wire Saddle	
104	1105 0334	Edge - 17	
105	1105 0310	Wire Clamp	
106	1105 0415	Spacer - 12.7mm	
107	1102 7445	Connector - 46p	
108	0451 3008B	Tapping Screw - M3x8	
109	1107 0472	Circuit Breaker - 250V/8A	
110	1607 0638	Ferrite Core - Tfc25-15-12	
111	1102 7445	Connector - 46p	

25.Frame Section 1 (A224)

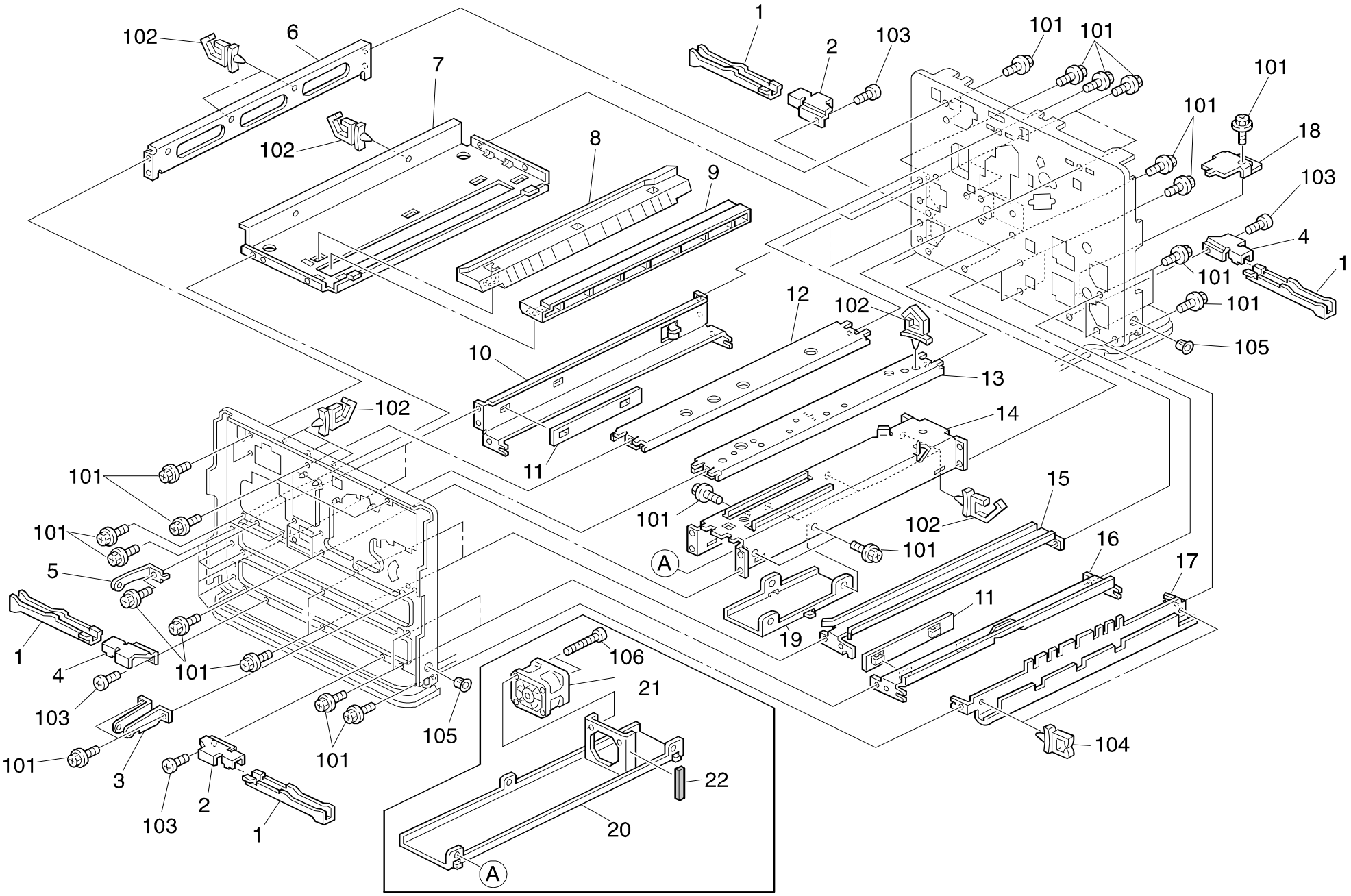


25.Frame Section 1 (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	AX31 0022	Total Counter	1
2	A224 5401	Relay Harness - Total Counter	1
3	G020 5807	Bracket - Door Switch	1
4	G020 5835	Release Spring - Fusing Drive	1
5	G020 5839	Release Wire - Fusing Drive	1
6	G020 5486	Harness - Front Door Sw	1
7	A193 5411	Harness Safety Switch - 5V	1
8	A193 5410	Harness Safety Switch - 24V	1
9	G020 5811	Safety Switch Actuator	1
10	AG07 0004	Magnetic Catch	3
11	1204 2446	Switch	1
12	A193 5809	Bracket - Operation Switch	1
13	A193 5456	Harness - Operation Switch	1
14	A193 1079	Left Lower Stay - Scanner Unit	1
15	A193 1321	Left Exit Cover	1
16	G020 5415	Harness - Humidity Sensor	1
17	G020 5625	Humidity Sensor	1
18	G020 2135	Bracket - Humidity Sensor	1
19	G020 1054	Positioning Plate	1
20	A193 1326	Rear Exit Cover	1
21	A193 1068	Rear Fixed Plate	1
22	A193 1083	Bracket - Sorter	1
23	G020 5812	Microswitch	1
24	A193 1382	Window Cover	1
25	A193 1077	Right Lower Stay - Scanner Unit	1
26	A193 1331	Right Exit Cover	1
27	G020 5815	Actuator - Release Gear	1
28	A193 5813	Bracket - Total Counter	1
29	G020 5813	Bracket - Magnet	1
30	G020 5829	Shoulder Screw - M3x2.5	1
31	G020 5486	Harness - Front Door Sw	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	
102	0802 5255	Tapping Screw - M3	
103	0313 0400B	Tapping Screw - W3	

26.Frame Section 2 (A224)



26.Frame Section 2 (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A193 1070	Grip Plate	4
2	A134 1072	Right Bracket - Grip Plate	2
3	G020 1330	Right Hinge Bracket - Front Door	1
4	G020 1085	Bracket - Grip Plate	2
5	G020 1331	Left Hinge Bracket - Front Door	1
6	G020 1074	Harness Stay	1
7	G020 1073	Lower Left Plate	1
8	G020 1090	Left Relay Guide	1
9	G020 1087	Right Relay Guide	1
10	G020 2651	Left Guide - Paper Tray	1
11	G020 2678	Guide Plate - Paper Tray	1
12	G020 1071	Left Stay - Laser Unit	1
13	G020 1070	Right Stay - Laser Unit	1
14	A193 1073	Rail - Fusing Unit	1
15	G020 2652	Middle Rail - Paper Tray	1
16	G020 2650	Right Guide - Paper Tray	1
17	G020 2631	Stay - Vertical Transport	1
18	G020 1053	Guard Bracket	1
19	A224 1070	Relay Harness Cover	1
20	A224 1073	Relay Harness Cover	2
21	AX64 0024	Fan Motor - DC24V 2.16W	1
22	A224 1076	Seal - Fan Motor	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	
102	1105 0291	Wire Saddle	
103	0434 0060B	Pan Head Self-tapping Screw - M4x6	

27.BICU Board (A224)

AR

CYMBOL NO.	INDEX NO.
AR1	199
AR2	199
AR3	199
AR4	199
AR5	199
AR6	148
AR7	148
AR8	148
AR9	148
AR10	151
AR11	155
AR12	153
AR13	199
AR14	153
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AR24	154
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AR27	152
AR28	148
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AR30	148
AR31	148
AR32	148
AR33	153
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AR36	155
AR37	150
AR38	148
AR39	151
AR40	151
AR41	151
AR42	151
AR43	148
AR44	148
AR45	148
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AR47	148
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AR49	148
AR50	151
AR51	151
AR52	199
AR53	199
AR54	199
AR55	199
AR56	199
AR57	199
AR58	199
AR59	148
AR60	148

CAPACITOR

CYMBOL NO.	INDEX NO.
C1	197
C2	196
C3	196
C4	188
C5	198
C6	186
C7	198
C8	156
C9	198
C10	194

CAPACITOR

CYMBOL NO.	INDEX NO.
C11	196
C12	187
C13	187
C14	190
C15	198
C16	198
C17	192
C18	190
C19	198
C20	185
C21	194
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C74	194
C75	198
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C77	196
C78	196
C79	198
C80	198

CAPACITOR

CYMBOL NO.	INDEX NO.
C81	198
C82	198
C83	194
C84	198
C85	198
C86	198
C87	198
C88	194
C89	198
C90	198

CYMBOL NO.	INDEX NO.
C91	198
C92	194
C93	198
C94	198
C95	198
C96	198
C97	198
C98	198
C99	198
C100	191

CYMBOL NO.	INDEX NO.
C101	190
C102	198
C103	198
C104	191
C105	198
C106	194
C107	194
C108	196
C109	196
C110	198

CYMBOL NO.	INDEX NO.
C111	198
C112	196
C113	198
C114	196
C115	194
C116	194
C117	194
C118	----
C119	198
C120	198

CYMBOL NO.	INDEX NO.
C121	198
C122	198
C123	198
C124	198
C125	196
C126	196
C127	196
C128	196
C129	196
C130	196

CYMBOL NO.	INDEX NO.
C131	196
C132	196
C133	196
C134	196
C135	198
C136	198
C137	196
C138	198
C139	194
C140	194

CYMBOL NO.	INDEX NO.
C141	198
C142	198
C143	198
C144	194
C145	194
C146	194
C147	194
C148	194
C149	194
C150	193

CAPACITOR

CYMBOL NO.	INDEX NO.
C151	193
C152	193
C153	193
C154	193
C155	193
C156	193
C157	193
C158	193

CNNECTOR

CYMBOL NO.	INDEX NO.
CN301	108
CN302	103
CN303	104
CN304	108
CN305	110
CN306	105
CN307	101
CN308	102
CN309	109
CN310	107

DIODE

CYMBOL NO.	INDEX NO.
CN311	106

CYMBOL NO.	INDEX NO.
D1	119
D2	119
D3	121

DA

CYMBOL NO.	INDEX NO.
DA1	120
DA2	120
DA3	120
DA4	120
DA5	120
DA6	120
DA7	120
DA8	120

FILTER

CYMBOL NO.	INDEX NO.
FIL1	158
FIL2	158
FIL3	158
FIL4	158
FIL5	158
FIL6	158
FIL7	158
FIL8	158
FIL9	158
FIL10	158

CYMBOL NO.	INDEX NO.
FIL11	162
FIL12	159
FIL13	159
FIL14	159
FIL15	159
FIL16	159
FIL17	161
FIL18	159
FIL19	159
FIL20	----

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27.BICU Board (A224)

FIL

CYMBOL NO.	INDEX NO.
FIL21	----
FIL22	159
FIL23	159
FIL24	159
FIL25	159
FIL26	159
FIL27	160

FUSE

CYMBOL NO.	INDEX NO.
FU1	112
FU2	112

IC

CYMBOL NO.	INDEX NO.
IC1	----
IC2	140
(SOCKET)	111
IC3	195
IC4	139
IC5	138
IC6	2
IC7	1
IC8	3
IC9	125
IC10	125

CYMBOL NO.	INDEX NO.
IC11	141
IC12	137
IC13	143
IC14	4
IC15	136
IC16	142
IC17	131
IC18	128
IC19	135
IC20	137

CYMBOL NO.	INDEX NO.
IC21	129
IC22	144
IC23	134
IC24	134
IC25	126
IC26	126
IC27	127

JP

CYMBOL NO.	INDEX NO.
JP1	182
JP2	182
JP3	182
JP4	182
JP5	182
JP6	182

LED

CYMBOL NO.	INDEX NO.
LED1	124
LED2	123

Q

CYMBOL NO.	INDEX NO.
Q1	117
Q2	115
Q3	115
Q4	118
Q5	115
Q6	114
Q7	115
Q8	116

RESISTOR

CYMBOL NO.	INDEX NO.
R1	167
R2	163
R3	167
R4	167
R5	167
R6	175
R7	175
R8	175
R9	163
R10	172

CYMBOL NO.	INDEX NO.
R11	179
R12	175
R13	165
R14	175
R15	179
R16	167
R17	179
R18	165
R19	165
R20	165

CYMBOL NO.	INDEX NO.
R21	166
R22	166
R23	166
R24	165
R25	169
R26	175
R27	167
R28	175
R29	167
R30	165

CYMBOL NO.	INDEX NO.
R31	175
R32	175
R33	175
R34	175
R35	167
R36	167
R37	167
R38	167
R39	176
R40	176

CYMBOL NO.	INDEX NO.
R41	170
R42	175
R43	175
R44	175
R45	175
R46	175
R47	175
R48	175
R49	170
R50	166

CYMBOL NO.	INDEX NO.
R51	167
R52	171
R53	166
R54	165
R55	165
R56	167
R57	176
R58	167
R59	176
R60	169

27.BICU Board (A224)

RESISTOR

CYMBOL NO.	INDEX NO.
R61	167
R62	167
R63	167
R64	167
R65	167
R66	175
R67	175
R68	175
R69	175
R70	175

CYMBOL NO.	INDEX NO.
R71	179
R72	179
R73	167
R74	167
R75	167
R76	167
R77	176
R78	176
R79	176
R80	176

CYMBOL NO.	INDEX NO.
R81	167
R82	175
R83	175
R84	167
R85	166
R86	171
R87	167
R88	181
R89	165
R90	171

CYMBOL NO.	INDEX NO.
R91	184
R92	183
R93	166
R94	166
R95	167
R96	167
R97	167
R98	179
R99	165
R100	165

CYMBOL NO.	INDEX NO.
R101	164
R102	175
R103	179
R104	165
R105	179
R106	166
R107	179
R108	176
R109	167
R110	166

CYMBOL NO.	INDEX NO.
R111	179
R112	179
R113	177
R114	178
R115	166
R116	180
R117	177
R118	168
R119	171
R120	176

CYMBOL NO.	INDEX NO.
R121	181
R122	175
R123	179
R124	175
R125	175
R126	172
R127	166
R128	179
R129	172
R120	167

RESISTOR

CYMBOL NO.	INDEX NO.
R131	173
R132	175
R133	181
R134	181
R135	181
R136	181
R137	181
R138	181
R139	181
R140	181

CYMBOL NO.	INDEX NO.
R141	181
R142	181
R143	176
R144	176
R145	176
R146	176
R147	176
R148	179
R149	179
R150	166

CYMBOL NO.	INDEX NO.
R151	166
R152	166
R153	166
R154	166
R155	167
R156	166
R157	166
R158	166
R159	166
R160	166

CYMBOL NO.	INDEX NO.
R161	166
R162	167
R163	165
R164	175
R165	175
R166	174
R167	165
R168	165
R169	175
R170	165

CYMBOL NO.	INDEX NO.
R171	167
R172	165
R173	165
R174	165
R175	165
R176	174

REG

CYMBOL NO.	INDEX NO.
REG1	145

SW

CYMBOL NO.	INDEX NO.
SW1	113

XTL

CYMBOL NO.	INDEX NO.
XTL1	146
XTL2	147

ZD

CYMBOL NO.	INDEX NO.
ZD1	122

230V Model Only

b‘o‘bhsn

bxlank mnM	hmcdw mnM
AR 1	149
AR 2	149
AR 3	149
AR 4	149
AR 5	149
AR 13	149
AR 18	201
AR 30	201
AR 31	201
AR 32	201

bxlank mnM	hmcdw mnM
AR 52	149
AR 53	149
AR 54	149
AR 55	149
AR 56	149
AR 57	149
AR 58	149

bxlank mnM	hmcdw mnM
C 161	---
C 162	---
C 163	194
C 164	200
C 165	200
C 166	200
C 167	200
C 168	200
C 169	200
C 170	200

bxlank mnM	hmcdw mnM
C 171	200
C 172	200
C 173	200
C 174	200
C 175	200
C 176	200
C 177	200
C 178	200
C 179	200
C 180	200

bxlank mnM	hmcdw mnM
C 181	200
C 182	194
C 183	194
C 184	200
C 185	200
C 186	194
C 187	---
C 188	194
C 189	194
C 190	194

bxlank mnM	hmcdw mnM
C 191	194
C 192	194
C 193	---
C 194	194
C 195	---
C 196	194
C 197	194
C 198	194
C 199	---
C 200	194

bxlank mnM	hmcdw mnM
C 201	---
C 202	---
C 203	---
C 204	194
C 205	---
C 206	---
C 207	194
C 208	194
C 209	---
C 210	194

bxlank mnM	hmcdw mnM
C 211	---
C 212	194
C 213	194
C 214	194
C 215	194
C 216	---
C 217	---
C 218	---
C 219	194
C 220	---

bxlank mnM	hmcdw mnM
C 221	194
C 222	194
C 223	---
C 224	194
C 225	200
C 226	200
C 227	194
C 228	194
C 229	194
C 230	194

bxlank mnM	hmcdw mnM
C 231	194
C 232	---
C 233	---
C 234	194
C 235	---
C 236	194
C 237	194
C 238	---
C 239	---
C 240	---

bxlank mnM	hmcdw mnM
C 241	194
C 242	200
C 243	200
C 244	200
C 245	---
C 246	194
C 247	200
C 248	200
C 249	194
C 250	194

bxlank mnM	hmcdw mnM
C 251	---
C 252	194
C 253	194
C 254	194
C 255	194
C 256	---
C 257	---
C 258	---
C 259	---
C 260	---

qdrhrsnq

bxlank mnM	hmcdw mnM
R 36	204
R 37	204
R 38	204
R 39	203
R 40	203
R 41	203
R 42	202
R 168	202
R 170	202

27.BICU Board (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
*	A224 5091	Bicu Board (115V)	1
*	A224 5092	Bicu Board (230V)	1
1	A193 5510	IC - BU6206KV	1
2	A193 5520	IC - GAPD	1
3	A193 5550	IC - ADIPU M66359FP	1
4	G022 5901	IC - Asic - FCI1	1
101	1102 7383	Connector FC-102H	
102	1102 7453	Connector FX2-80S-1.27SV1	

Index No.	Part No.	Description	Q'ty Per Assembly
103	1102 7454	Connector FX6-60P-0.8SV2	
104	1102 7455	Connector FX6-60S-0.8SV2	
105	1102 7456	Connector 176125-5	
106	1102 7463	Connector KX14-70K8D1	
107	1102 7465	Connector IL-FHR-20S-HF	
108	1102 7466	Connector IL-FHR-50S-HF	
109	1102 7676	Connector - 16P	
110	1102 7677	Connector - 22P	
111	1104 0759	IC Socket 28P 2-382409-3	
112	1107 0900	Fuse - 3216FF-3A	
113	1204 2373	Key Bord Switch - Skqdpa	
114	1400 0390	Transistor, 2SA1122, Hitachi	
115	1400 0392	Transistor - DTC114EK	
116	1400 0398	Transistor - 2SC2412K	
117	1400 0702	Transistor - DTD143EK	
118	1400 0703	Transistor - 2SA1313	
119	1402 0477	Silicon Diode - 1SS187	
120	1402 0478	Diode - 1SS226TE85L	
121	1402 0804	Silicon Diode - 45V - 0.3A	
122	1402 1111	Diode - HZM5.1NB2	
123	1403 0828	Diode - SEC1901C	
124	1403 0829	Diode - SEC1201C	
125	1407 1600	TTLIC - SN74LS244NS	
126	1407 2187	TTLIC - SN74LS07NS	
127	1407 2218	TTLIC SN74LS06NS	
128	1407 2561	TTLIC - 74F157ASJ	
129	1407 2783	TTL SN74AS00NS	
130	1407 2948	IC - TC7S04F	
131	1407 3263	IC - TC7S08F	
132	1407 4179	Cmos IC TC7W04FU	
133	1407 4322	IC - TD74ABT374F	
134	1407 4323	TTL TD74ABT244AF	
135	1407 4536	IC - ICS1574	
136	1407 4651	IC - TC7S04FU	
137	1407 4671	Fifo M66256FP	

Index No.	Part No.	Description	Q'ty Per Assembly
138	1407 4683	MPU HD6413003TF-10	
139	1407 4685	EEPROM LH28F800SUT-70	
140	1407 4730	SRAM STK12C68-W45	
141	1407 4734	IC - M66257FP	
142	1408 0575	IC - M51957BFP	
143	1408 0797	IC - TC74HCO3AF : CMOS	
144	1408 1065	Comparator BA10339F	
145	1408 1226	Regulator:3.3V:PQ3TZ53	
146	1503 0587	Oscilator CX-5F 19.6608MHZ	
147	1503 0787	Oscilator CSTCS19.58MX040	
148	1601 1413	Resistor - RCB8C330J	
149	1601 7722	Resistor - 100Ω	
150	1601 7751	Resistor - 4.7KΩ ±5%	
151	1601 7752	Resistor Array - 10K Ω ±5%	
152	1601 7792	Resistor Array - 1K Ω	
153	1601 7793	Resistor Array - 10K Ω	
154	1601 7796	Resistor Array - 2.2K Ω ±5%	
155	1601 7814	Resistor 3.3K Ω ±5%	
156	1604 4333	Capacitor - 100µF ±20% 10V	
157	1605 0577	Capacitor - 0.33µF +80-20%	
158	1607 0732	Noise Filter - AEF321825-470	
159	1607 0847	Data Line Filter - ACB1608H-300	
160	1607 0907	Emi Filter ACB2012H-300	
161	1607 0926	Filter - ACF321825-680	
162	1607 0927	Filter - ACF321825-220	
163	1630 3471	Resistor - 470Ω - 1/10W	
164	1630 4100	Resistor - 10 Ω ±5% 1/16W	
165	1630 4101	Resistor - 100 Ω ±5% 1/16W	
166	1630 4102	Resistor - 1.0KΩ ±5% 1/16W	
167	1630 4103	Resistor - 10KΩ ±5% 1/16W	
168	1630 4104	Resistor - 100 Ω ±5% 1/16W	
169	1630 4105	Resistor - 1.0MΩ ±5% 1/16W	
170	1630 4150	Resistor - 15Ω ±5.00%,1/16W	
171	1630 4222	Registor - 2.2k Ω - ±5%	

Index No.	Part No.	Description	Q'ty Per Assembly
172	1630 4223	Registor - 22k Ω - ±5% - 1/16w	
173	1630 4273	Registor - 27k Ω - ±5% - 1/16w	
174	1630 4301	Registor - 300 Ω ±5% 1/10W	
175	1630 4330	Resostor - 33Ω ±5% 1/8w	
176	1630 4332	Registor:3.3kΩ:±5%:1/16w	
177	1630 4333	Resistor: 33kΩ: ±5%: 1/16w	
178	1630 4471	Resistor - 470 Ω ±5% 1/16W	
179	1630 4472	Resistor - 4.7KΩ ±5% 1/16W	
180	1630 4510	Resistor - 51 Ω ±5%:1/16W	
181	1630 4680	Resistor - 68 Ω ±5% 1/16W	
182	1634 0000	Registor - 0Ω - 1/16w	
183	1634 1002	Resistor - 10 Ω ±5% 1/16W	
184	1634 3921	Resistor - 3.92KΩ ±1% 1/1	
185	1644 0220	Capacitor - 22µF ±20% 10V	
186	1644 0470	Capacitor - 47µF ±20% 10V	
187	1644 2100	Capacitor - 10µF ±20% 25V	
188	1644 5100	Capacitor - 10µF ±20% 50V	
189	1644 6220	Capacitor 22µF ±20% 6.3v	
190	1660 0100	Capacitor:10pf:±0.5pf:50v	
191	1660 2101	Capacitor:- 100PF - ±10% - 50V	
192	1660 2150	Capacitor - 15PF ±5% 50V	
193	1660 2330	Capacitor:- 33PF - ±5% - 50V	
194	1660 2471	Capacitor:- 470PF - ±5% - 50V	
195	1901 0023	DRAM 4M 256X16 70NS G3	
196	1660 6103	Capacitor - 10000PF - +80%-20% 50V	
197	1660 7104	Capacitor - 100000PF 50V	
198	1660 8104	Capacitor - 0.1uF +80-20% 25V	
199	1601 1930	Resistor - 100Ω ±5% 1/10W (115V)	
200	1660 2151	Capacitor - 150PF ±20% 35V (230V)	
201	1601 7723	Resistor - 150 Ω (230V)	
202	1630 4151	Resistor - 150 Ω ±5% 1/16W (230V)	
203	1630 4221	Resistro - 220 Ω ±5% 1/16W (230V)	
204	1630 4681	Resistor - 680 Ω ±5% 1/16W (230V)	

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28.IOCSS Board (A224)

CAPACITOR

CYMBOL NO.	INDEX NO.	CYMBOL NO.	INDEX NO.	CYMBOL NO.	INDEX NO.	CYMBOL NO.	INDEX NO.	CYMBOL NO.	INDEX NO.	CYMBOL NO.	INDEX NO.	CYMBOL NO.	INDEX NO.
C101	137	C111	179	C121	176	C131	173	C141	178	C151	178	C161	178
C102	178	C112	178	C122	153	C132	179	C142	178	C152	179	C162	178
C103	178	C113	178	C123	153	C133	176	C143	176	C153	179	C163	178
C104	178	C114	178	C124	173	C134	179	C144	178	C154	179	C164	179
C105	178	C115	177	C125	175	C135	----	C145	178	C155	178	C165	178
C106	179	C116	178	C126	173	C136	179	C146	178	C156	179	C166	177
C107	178	C117	179	C127	178	C137	178	C147	178	C157	178	C167	----
C108	174	C118	178	C128	----	C138	178	C148	178	C158	178	C168	178
C109	----	C119	178	C129	179	C139	178	C149	178	C159	179	C169	179
C110	177	C120	179	C130	----	C140	178	C150	178	C160	----	C170	178

CAPACITOR

CYMBOL NO.	INDEX NO.	CYMBOL NO.	INDEX NO.	CYMBOL NO.	INDEX NO.	CYMBOL NO.	INDEX NO.	CYMBOL NO.	INDEX NO.	CYMBOL NO.	INDEX NO.	CYMBOL NO.	INDEX NO.
C171	178	C181	178	C191	179	C201	179	C211	178	C221	178	C231	178
C172	178	C182	178	C192	178	C202	178	C212	178	C222	178	C232	178
C173	178	C183	178	C193	179	C203	178	C213	178	C223	178	C233	178
C174	178	C184	178	C194	178	C204	178	C214	179	C224	179	C234	178
C175	179	C185	178	C195	179	C205	179	C215	178	C225	178	C235	178
C176	179	C186	178	C196	----	C206	----	C216	178	C226	178	C236	178
C177	178	C187	179	C197	178	C207	153	C217	178	C227	178	C237	178
C178	178	C188	179	C198	178	C208	178	C218	178	C228	178	C238	178
C179	178	C189	178	C199	178	C209	178	C219	178	C229	178	C239	178
C180	178	C190	----	C200	178	C210	178	C220	178	C230	178	C240	178

CAPACITOR

CYMBOL NO.	INDEX NO.
C241	178
C242	178
C243	178
C244	178
C245	178
C246	178
C247	179
C248	178
C249	----
C250	178

CYMBOL NO.	INDEX NO.
C251	178
C252	178
C253	178
C254	178
C255	177
C256	178
C257	178
C258	178
C259	178
C260	178

CYMBOL NO.	INDEX NO.
C261	178
C262	178
C263	178
C264	178
C265	178
C266	178
C267	178
C268	178
C269	178
C270	178

CYMBOL NO.	INDEX NO.
C271	178
C272	178
C273	178
C274	178
C275	178
C276	177
C277	178
C278	178
C279	178
C280	178

CYMBOL NO.	INDEX NO.
C281	----
C282	----
C283	178
C284	----
C285	179
C286	178
C287	178

CNNECTOR

CYMBOL NO.	INDEX NO.
CN101	131
CN102	125
CN103	112
CN104	104
CN105	129
CN106	----
CN107	109
CN108	103
CN109	110
CN110	109

CYMBOL NO.	INDEX NO.
CN111	103
CN112	121
CN113	130
CN114	135
CN115	----
CN116	113
CN117	117
CN118	103
CN119	----
CN120	122

CNNECTOR

CYMBOL NO.	INDEX NO.
CN121	108
CN122	115
CN123	118
CN124	116
CN125	105
CN126	112
CN127	----
CN128	----
CN129	----
CN130	134

CYMBOL NO.	INDEX NO.
CN131	105
CN132	119
CN137	126
CN150	106
CN151	133
CN153	132
CN157	120
CN160	114
CN161	105
CN162	107

CYMBOL NO.	INDEX NO.
CN163	127
CN164	128
CN170	111

DA

CYMBOL NO.	INDEX NO.
DA101	158
DA106	138
DA107	138
DA108	138
DA109	138

FILTER

CYMBOL NO.	INDEX NO.
FIL101	180
FIL102	180
FIL103	180
FIL104	180
FIL105	180

FUSE

CYMBOL NO.	INDEX NO.
FU101	136
FU102	136
FU103	136

IC

CYMBOL NO.	INDEX NO.
IC101	147
IC102	142
IC103	144
IC104	142
IC105	146
IC106	142
IC107	----
IC108	142
IC109	142
IC110	----

28.IOCSS Board (A224)

IC

CYMBOL NO.	INDEX NO.
IC114	149
IC117	142
IC118	142
IC119	142
IC120	148
IC122	144
IC123	144
IC124	145

LED

CYMBOL NO.	INDEX NO.
LE101	----
LE102	140
LE103	140

Q

CYMBOL NO.	INDEX NO.
Q101	137
Q102	137
Q103	----
Q104	137
Q105	----
Q106	----
Q107	143
Q108	----
Q109	----
Q110	----

CYMBOL NO.	INDEX NO.
Q111	143
Q112	141
Q113	----
Q114	----
Q115	141
Q116	141
Q121	143

RESISTOR

CYMBOL NO.	INDEX NO.
R101	157
R102	----
R103	167
R104	166
R105	159
R106	162
R107	172
R108	169
R109	156
R110	159

CYMBOL NO.	INDEX NO.
R111	157
R112	156
R113	159
R114	156
R115	161
R116	155
R117	162
R118	155
R119	165
R120	155

CYMBOL NO.	INDEX NO.
R121	158
R122	155
R123	154
R124	154
R125	156
R126	160
R127	155
R128	154
R129	160
R130	154

RESISTOR

CYMBOL NO.	INDEX NO.
R131	160
R132	165
R133	154
R134	160
R135	154
R136	156
R137	160
R138	154
R139	154
R140	165

CYMBOL NO.	INDEX NO.
R141	159
R142	----
R143	----
R144	----
R145	160
R146	156
R147	156
R148	162
R149	155
R150	156

CYMBOL NO.	INDEX NO.
R151	156
R152	156
R153	150
R154	160
R155	162
R156	----
R157	163
R158	163
R159	----
R160	----

CYMBOL NO.	INDEX NO.
R161	----
R162	----
R163	----
R164	----
R165	----
R166	----
R167	156
R168	156
R169	168
R170	156

CYMBOL NO.	INDEX NO.
R171	162
R172	156
R173	171
R174	156
R175	156
R176	156
R177	156
R178	156
R179	156
R180	160

CYMBOL NO.	INDEX NO.
R181	156
R182	156
R183	156
R184	156
R185	----
R186	156
R187	156
R188	156
R189	162
R190	156

CYMBOL NO.	INDEX NO.
R191	155
R192	158
R193	----
R194	----
R195	166
R196	156
R197	170
R198	156
R199	156
R200	156

28.IOCSS Board (A224)

RESISTOR

CYMBOL NO.	INDEX NO.
R201	156
R202	155
R203	156
R204	165
R205	160
R206	156
R207	165
R208	155
R209	155
R210	155

CYMBOL NO.	INDEX NO.
R211	155
R212	165
R213	155
R214	165
R215	155
R216	156
R217	155
R218	155
R219	159
R220	156

CYMBOL NO.	INDEX NO.
R221	160
R222	160
R223	155
R224	171
R225	159
R226	162
R227	156
R228	159
R229	160
R230	159

CYMBOL NO.	INDEX NO.
R231	159
R232	155
R233	162
R234	171
R235	166
R236	155
R237	164
R238	156
R239	156
R240	159

CYMBOL NO.	INDEX NO.
R241	156
R242	162
R243	159
R244	156
R245	156
R246	156
R247	158
R248	159
R249	156
R250	162

CYMBOL NO.	INDEX NO.
R251	161
R252	159
R253	159
R254	156
R255	156
R256	162
R257	----
R258	156
R259	156
R260	156

CYMBOL NO.	INDEX NO.
R261	156
R262	156
R263	156
R264	162
R265	156
R266	156
R267	----
R268	----
R269	155
R270	166

RESISTOR

CYMBOL NO.	INDEX NO.
R271	155
R272	155
R273	155
R274	155
R275	155

RN

CYMBOL NO.	INDEX NO.
RN101	152
RN102	152
RN103	152
RN104	152
RN105	152
RN106	152
RN107	152
RN108	152
RN109	152
RN110	----

CYMBOL NO.	INDEX NO.
RN111	----
RN112	----
RN113	----
RN114	----
RN115	152
RN116	152
RN117	151
RN118	152
RN119	151
RN120	152

CYMBOL NO.	INDEX NO.
RN121	152
RN122	152
RN123	152
RN124	152
RN125	152
RN126	152
RN127	152
RN128	152
RN129	152
RN130	152

CYMBOL NO.	INDEX NO.
RN131	152
RN132	152
RN133	152
RN134	152
RN135	152
RN136	152
RN137	152
RN138	152
RN139	152
RN140	152

CYMBOL NO.	INDEX NO.
RN141	152
RN142	152
RN143	152
RN144	152
RN145	151
RN146	152
RN147	152
RN148	152
RN149	152
RN150	152

TP

CYMBOL NO.	INDEX NO.
TP105	101

ZD

CYMBOL NO.	INDEX NO.
ZD105	139

28.IOCSS Board (A224)

Index No.	Part No.	Description	Q'ty Per Assembly
*	A224 5105	IOCSS Board (115V)	1
*	A224 5106	IOCSS Board (230V)	1

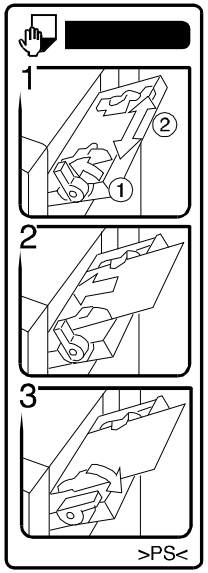
Index No.	Part No.	Description	Q'ty Per Assembly
101	1100 1474	Test Pin	
102	1102 3822	Connector - 20p	
103	1102 4201	Connector - 2p	
104	1102 4202	Connector - 3p	
105	1102 4204	CT Header - 5p	
106	1102 4205	CT Header- 6p	
107	1102 4207	Connector - 8p	
108	1102 4209	CT Header - 10p	
109	1102 4619	Connector - 2p	
110	1102 4620	CT Header - 3p	
111	1102 4621	CT Header - 4p	
112	1102 4623	CT Connector - 6p	
113	1102 4631	CT Connector - 2p	
114	1102 4633	CT Header - 4P	
115	1102 4634	CT Connector - 5p	
116	1102 4641	Cconnector - 12p	
117	1102 4643	CT Connector - 2p	
118	1102 4648	CT Connector - 7p	
119	1102 4818	Connector - 20p	
120	1102 5007	CT Header - 14p	
121	1102 5301	Connector - 2p	
122	1102 5844	Connector - 5566-02A	
123	1102 6295	Connector - 2p	
124	1102 6300	Connector - 7p	
125	1102 6303	Connector - 10p	
126	1102 6304	Connector - 11p	
127	1102 6396	Connector - 1p	
128	1102 6397	Box Header	
129	1102 6515	Connector - 34p	
130	1102 6662	Connector - 4p	
131	1102 6895	Connector - 40p	
132	1102 6957	Connector - 14p Blue	
133	1102 6958	Connector - 14p	
134	1102 7513	Header - 80p	
135	1102 7583	Connector 5566-06A-RE	

Index No.	Part No.	Description	Q'ty Per Assembly
136	1107 0555	Fuse - 4A : Semko	
137	1400 0700	Transistor - DTD133HK	
138	1402 1144	Diode Array - 1SS319	
139	1402 1327	Diode 2.0V	
140	1403 0404	LED - SEL2110R	
141	1407 1535	IC - TD62308AP	
142	1407 2187	TTLIC - SN74LS07NS	
143	1407 2219	IC - TD62003AP	
144	1407 3486	CMOS IC TC74HC153AF	
145	1407 3488	CMOS IC TC74HC4053AF	
146	1407 4565	IC - TE6251	
147	1408 0595	IC - NJM2904M	
148	1408 1204	IC - TA8083P	
149	1408 1225	IC - STK672-040	
150	1600 1449	Resistor - 47 Ω 3W	
151	1601 7800	Resistor Array - 1KΩ ±5% 1/16W	
152	1601 7801	Resistor Array:10kΩ:±5%:1/16w	
153	1605 0447	Cap.,ceramic,10pf ±0.5% 50v	
154	1630 1221	Resistor - 220 Ω ±5% 1/4W	
155	1630 3102	Resistor - 1KΩ 1/10W ±5%	
156	1630 3103	Resistor - 10KΩ 1/10W ±5%	
157	1630 3154	Resistor - 150K 0HM ±5% 1/10W	
158	1630 3220	Resistor - 22 Ω ±5% 1/10W	
159	1630 3243	Resistor - 24KΩ ±5% 1/10W	
160	1630 3332	Resistor - 3.3KΩ 1/10W ±5%	
161	1630 3391	Resistor - 390Ω 1/10W ±5%	
162	1630 3472	Resistor - 4.7KΩ 1/10W ±5%	
163	1630 3680	Resistor - 68 Ω ±5% 1/10W	
164	1630 3820	Resistor - 82 Ω ±5% 1/10W	
165	1632 3900	Resistor - 390 0HM ±1% 1/8W	
166	1633 1001	Resistor - 1K Ω ±1% 1/10W	
167	1633 1002	Resistor - 10K Ω ±1% 1/10W	
168	1633 1201	Resistor - 1.2KΩ ±1% 1/10W	

Index No.	Part No.	Description	Q'ty Per Assembly
169	1633 3301	Resistor - 3.3K Ω ±1% 1/10W	
170	1633 3901	Resistor - 3.9 Ω ±1% 1/10W	
171	1633 4700	Registor - 470 Ω - ±1% - 1/10w	
172	1633 4701	Resistor - 4.7K Ω ±1% 1/10W	
173	1640 5101	Capacitor - 100μF ±20% 50V	
174	1642 1101	Capacitor - 100μF ±20% 16V	
175	1642 1470	Capacitor 47μF ±20% 16v	
176	1643 5100	Capacitor - 10μF ±20% 50V	
177	1660 3471	Capacitor - 470PF 50V	
178	1660 7103	Capacitor - 10000PF 50V	
179	1660 7104	Capacitor - 100000PF 50V	
180	1002 0307	Jumper Wire	

29.Decal and Document (A224)

1



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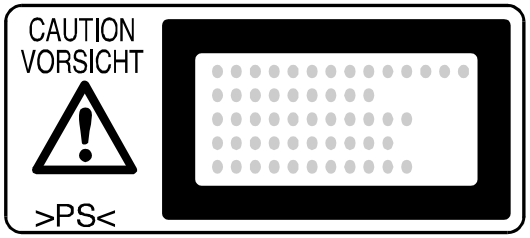

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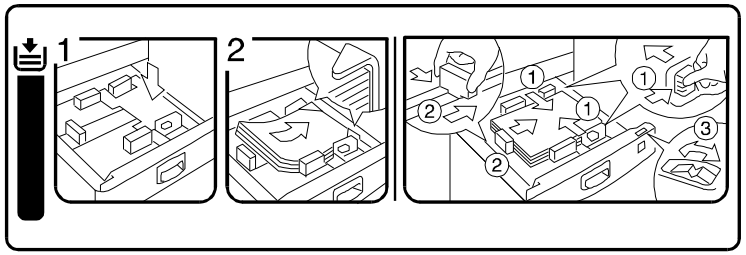

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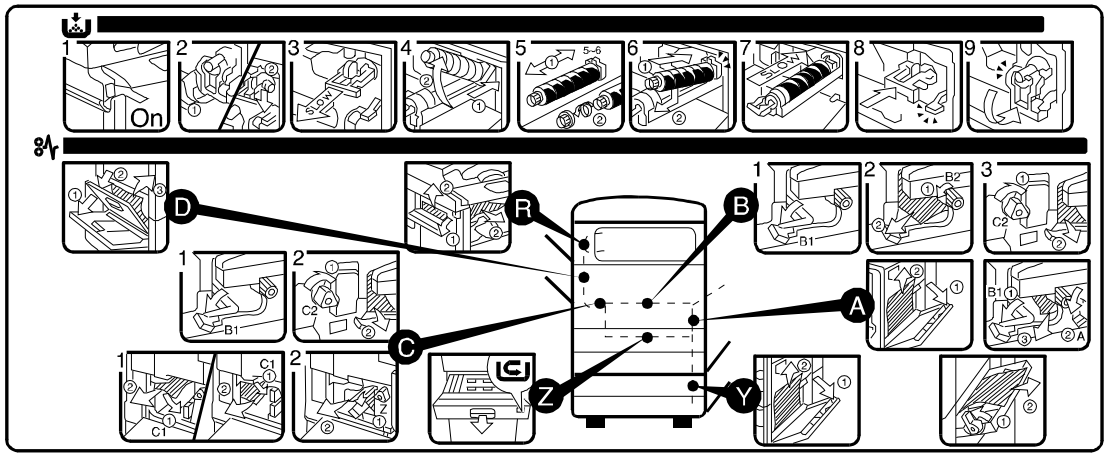

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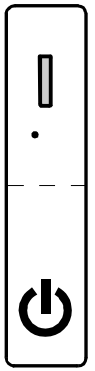

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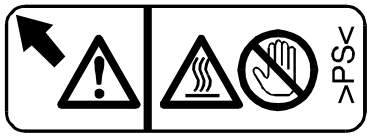

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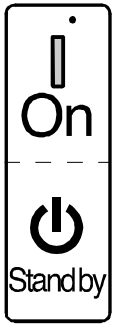

9

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6	A193 7361	Decal - Main Switch	1
7	G020 4128	Decal - High Temparature	1
8	A193 7363	Decal - AC Switch	1
9	A133 7112	Emblem (SVN)	1
9	A134 1383	Emblem	1
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10	A810 8650	Operating Instructions - Main-SVN	1
10	A810 8697	Operating Instructions - Main - NRG (LT)	1
10	A810 8690	Operating Instructions - Main-NRG (A4)	1
10	A224 8650	Operating Instructions - Copy - SVN	1
10	A224 8607	Operating Instructions - Copy - NA	1
10	A193 8690	Operating Instructions - Copy - NRG (A4)	1
10	A224 8697	Operating Instructions - Copy - NRG (LT)	1

Index No.	Part No.	Description	Q'ty Per Assembly

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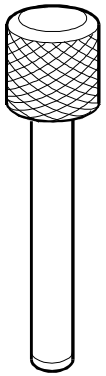
30.Special Tools (A224)

1



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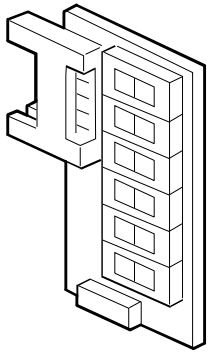

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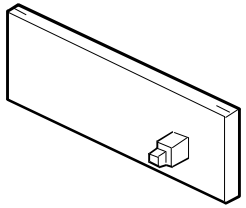

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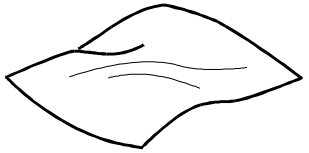

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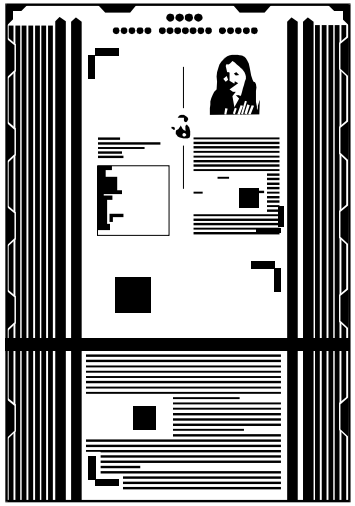

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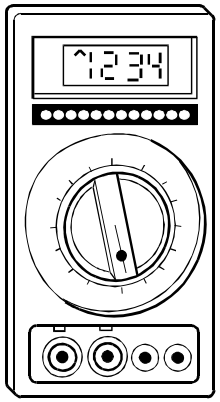

30.Special Tools (A224)

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First Edition September 1996

PARTS CATALOG

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ADAM (A193)

PARTS CATALOG

INTRODUCTION

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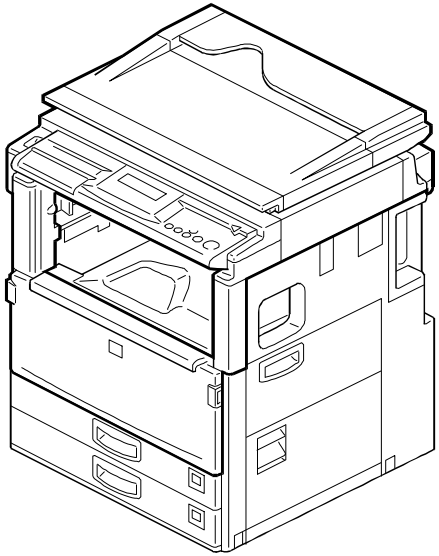

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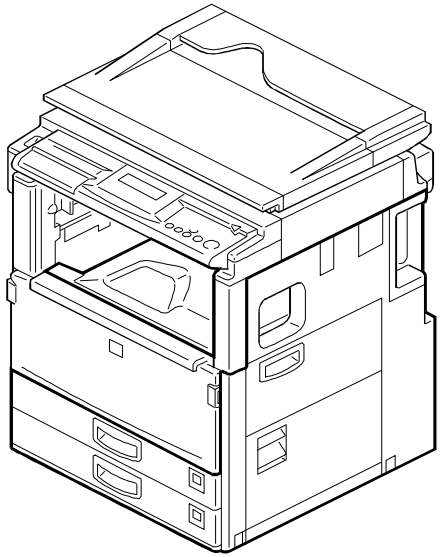

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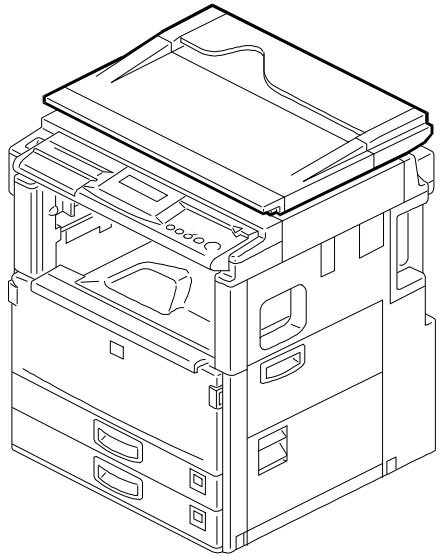
3. Platen Cover (A193)



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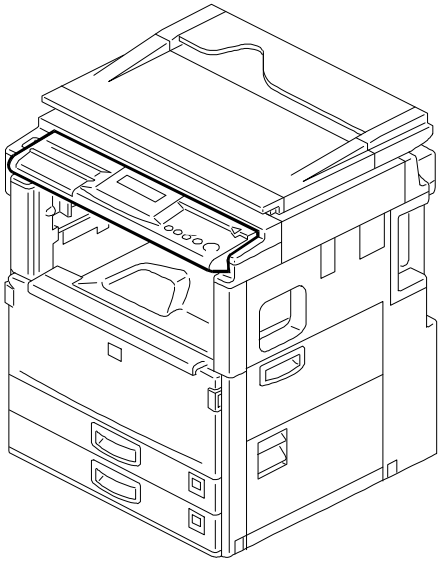
4. Operation Panel (A193)



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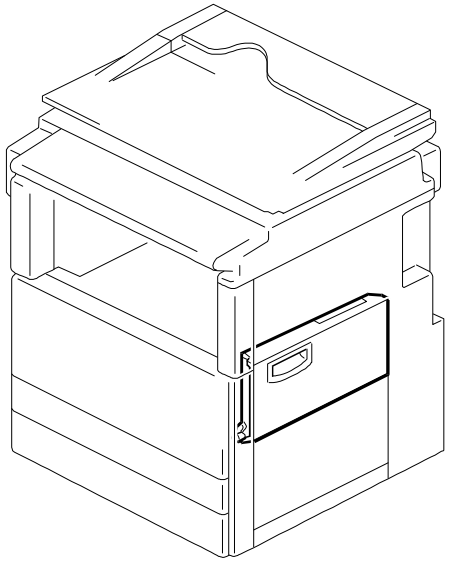
5. By-pass Feed Table (A193)



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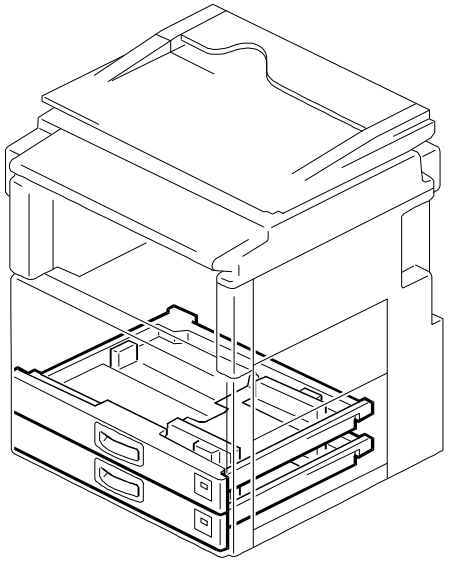

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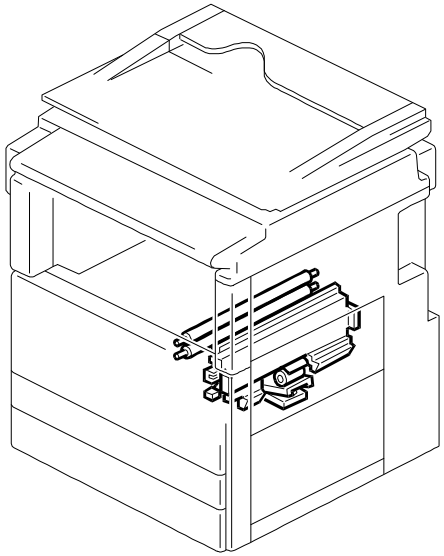
7. Resistration (A193)



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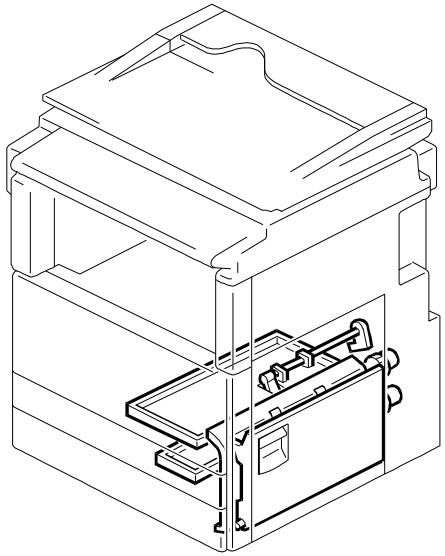

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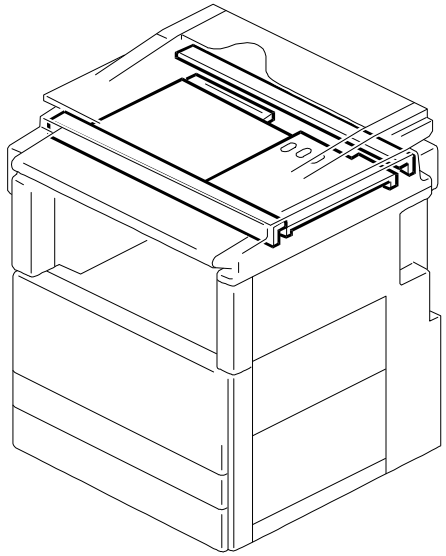

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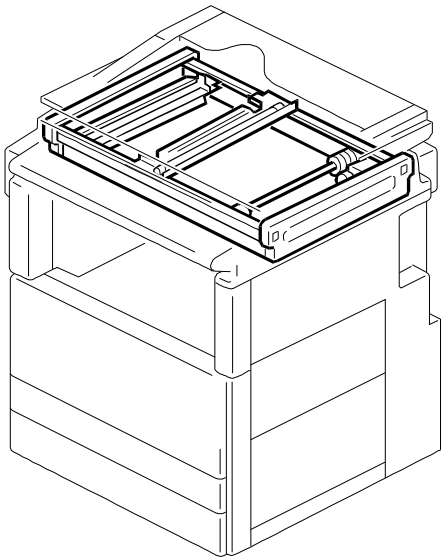

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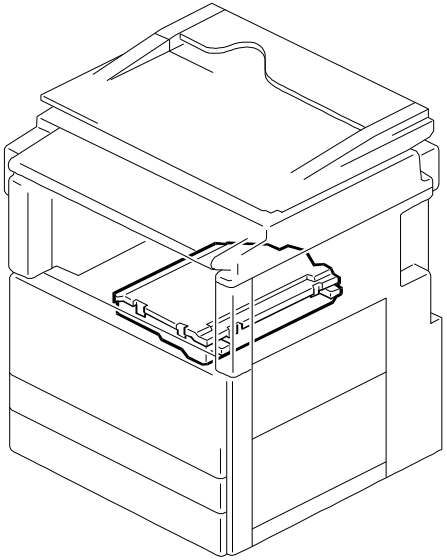
11. Laser Unit (A193)



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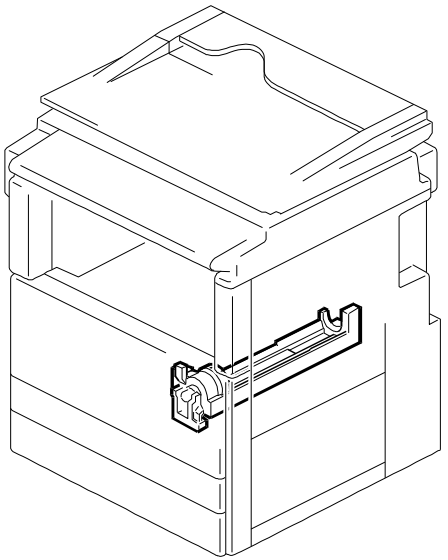
12. Toner Hopper Unit (A193)



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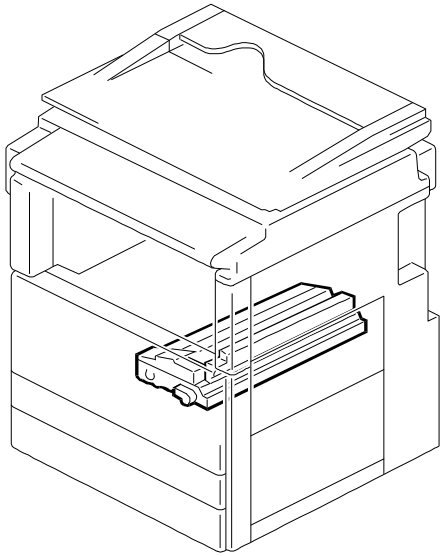
13. P.C.U. (A193)



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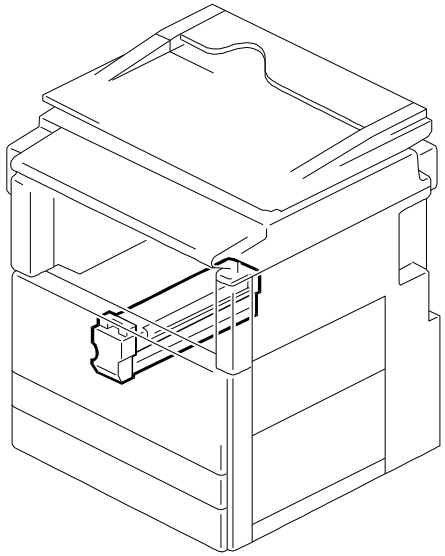
14. Fusing Unit (A193)



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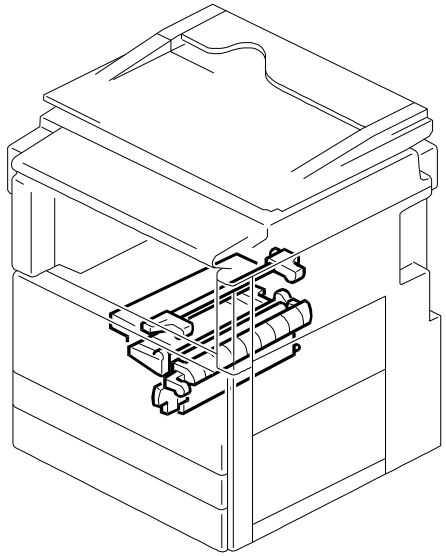
15. Paper Exit Section (A193)



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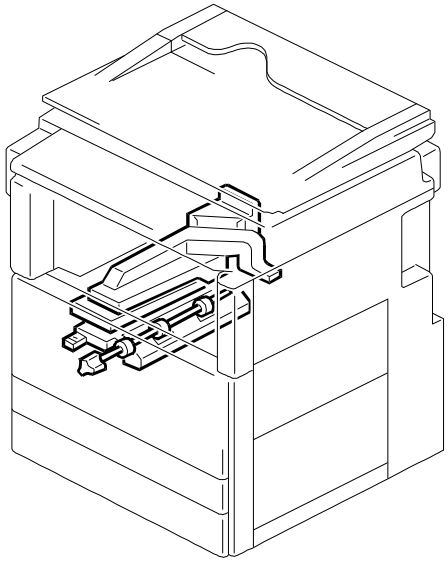
16. Transport Section 1 (A193)



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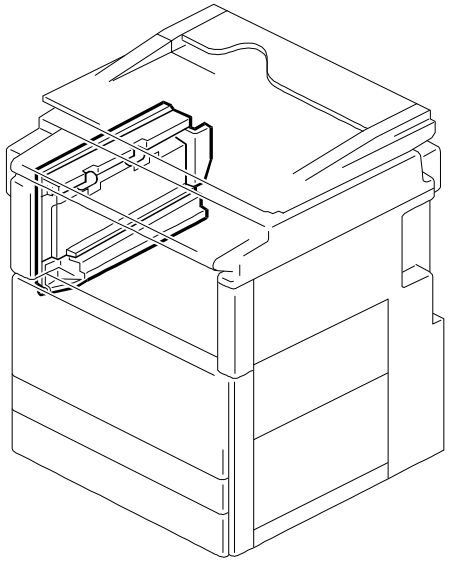
17. Transport Section 2 (A193)



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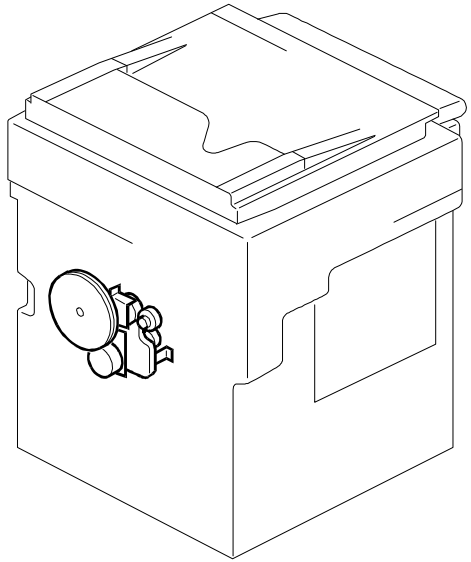
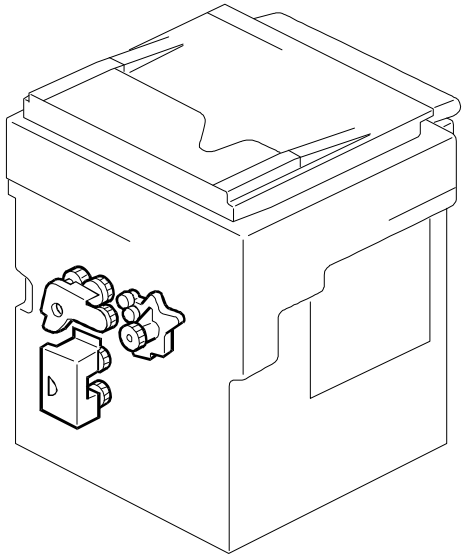
18. Drive Section 1 (A193)



See Page 40

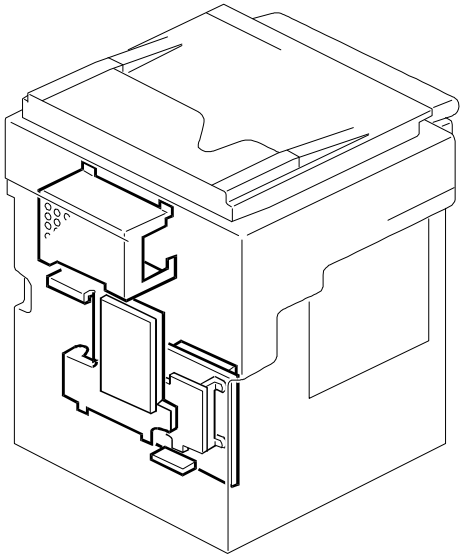
Location of unit

19. Drive Section 2 (A193)



See Page 42

20. Electrical Section 1 (A193)



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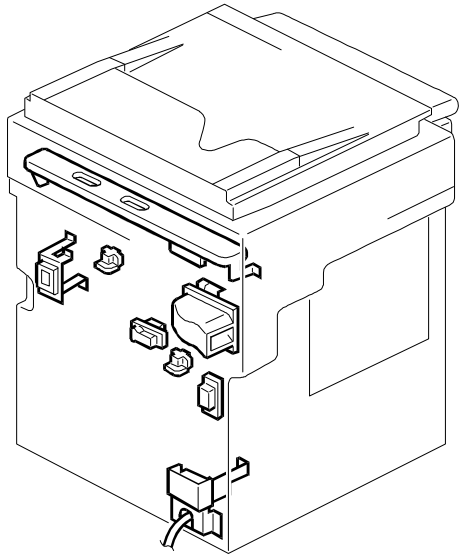
21. Electrical Section 2 (A193)



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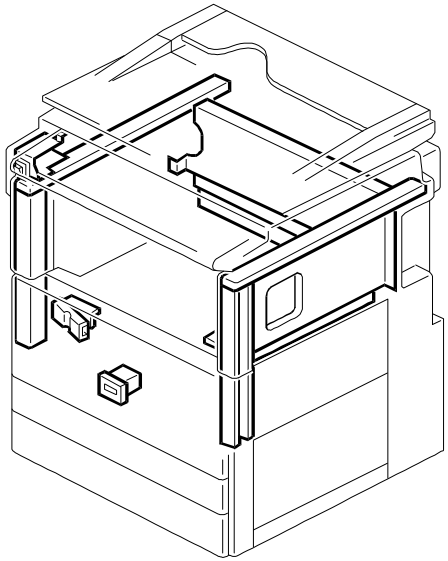
22. Frame Section 1 (A193)



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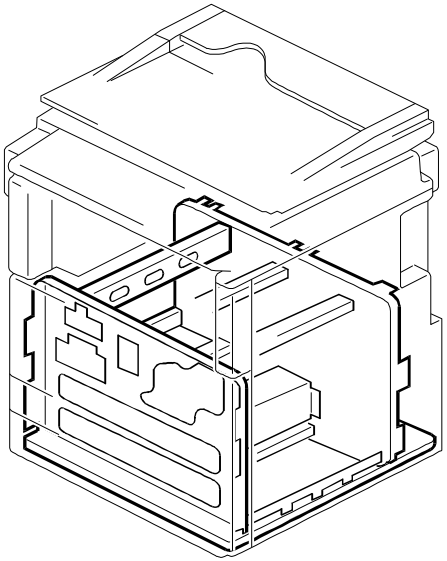
23. Frame Section 2 (A193)



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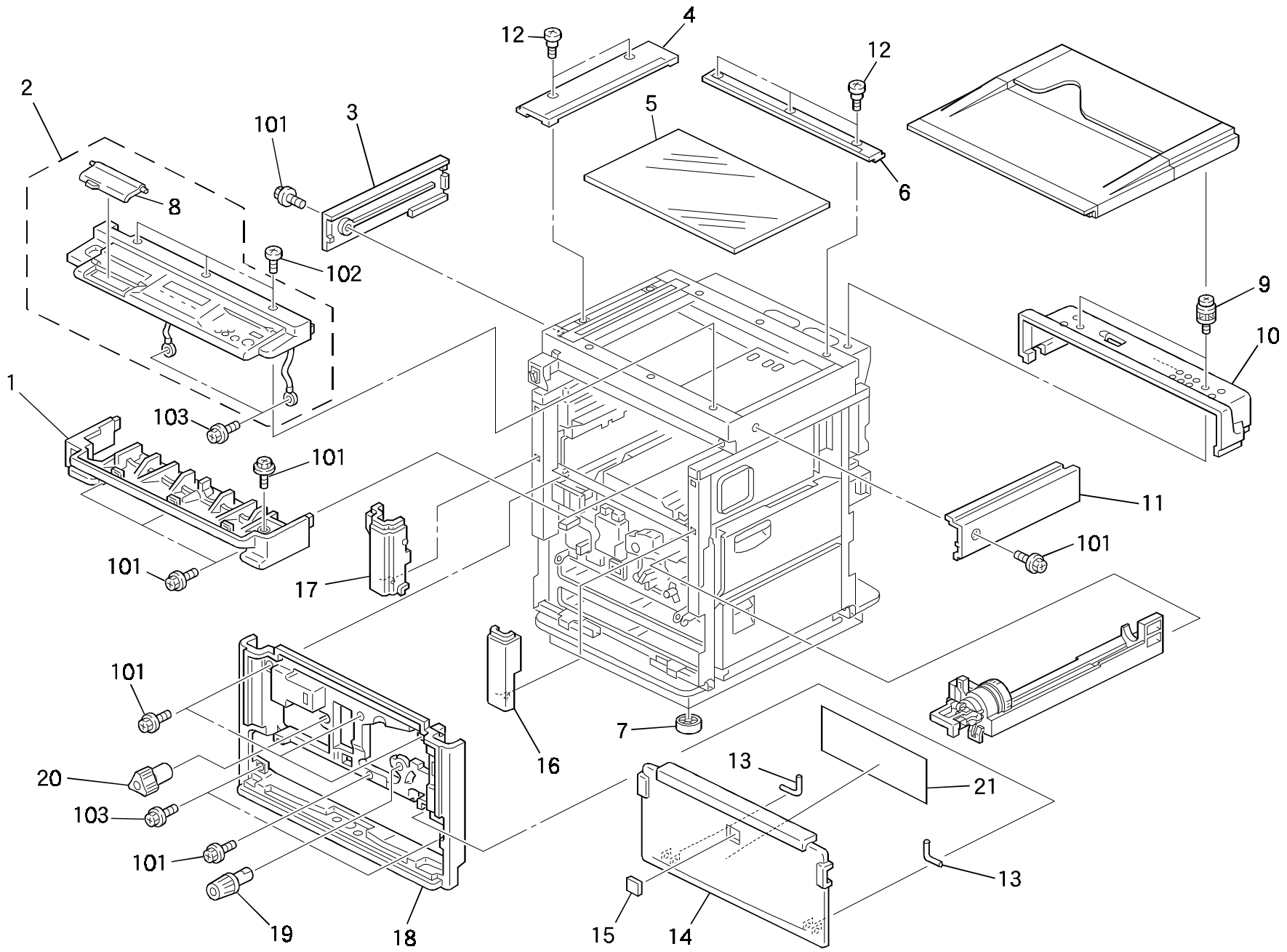
1. Exterior 1 (A193)

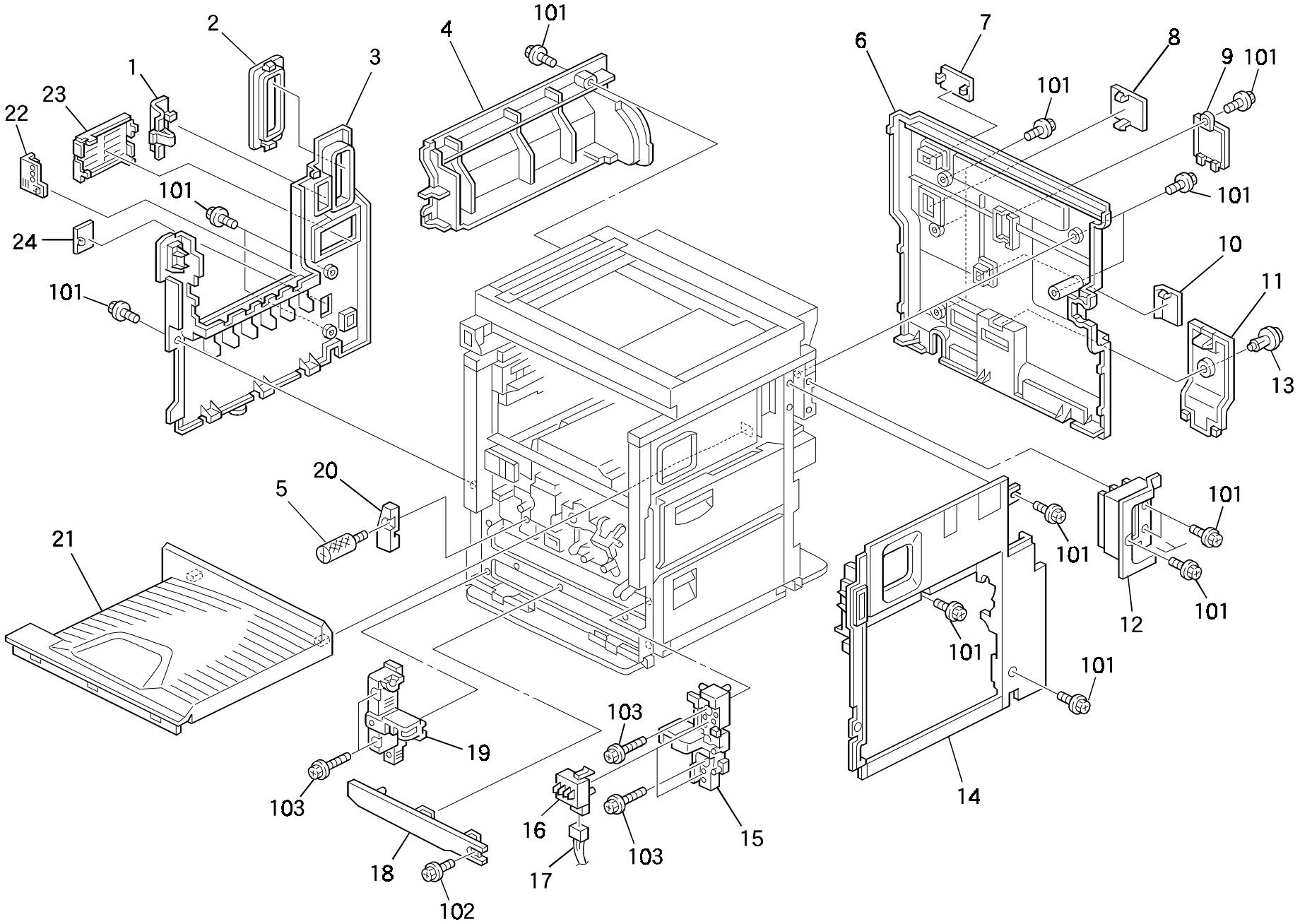


1. Exterior 1 (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A193 1266	Lower Cover - Operation Panel	1
2	A193 1451	Operation Panel Ass'y (LT)	1
2	A193 1452	Operation Sub-unit (A4)	1
2	A193 1453	Operation Sub-unit (SVN)	1
3	A193 1251	Scanner Left Cover	1
4	A193 1680	Left Original Scale	1
5	5215 1980	Exposure Glass - A3T-3.2	1
6	A193 1757	Rear Original Scale	1
7	G020 1052	Stand	4
8	A193 1474	Lower Cover - Operation Panel	1
9	5215 1667	Platen Cover Stud	2
10	A193 1256	Upper Rear Cover	1
11	A193 1261	Scanner Right Cover	1
12	A193 1759	Stepped Screw	5
13	G020 1332	Hinge Front Door	2
14	A193 7226	Front Door (GES/LAN)	1
14	A193 7224	Front Door (SVN)	1
14	A193 7214	Front Door (INF)	1
14	A193 1501	Front Door (RIC)	1
15	A134 1380	Emblem (GES)	1
15	A133 7112	Emblem (SVN)	1
15	A134 1383	Emblem (RIC/LEN)	1
15	A153 6423	Support Cover (INF)	1
16	A193 1341	Right Front Cover	1
17	A193 1336	Left Front Cover	1
18	A193 1301	Front Cover	1
19	G020 2783	Registration Roller Knob	1
20	G020 4480	Fusing Knob	1
21	A193 1319	Operation Decal	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0802 5255	Tapping Screw - M3	
102	0353 0050F	Tapping Screw - M3	

2. Exterior 2 (A193)

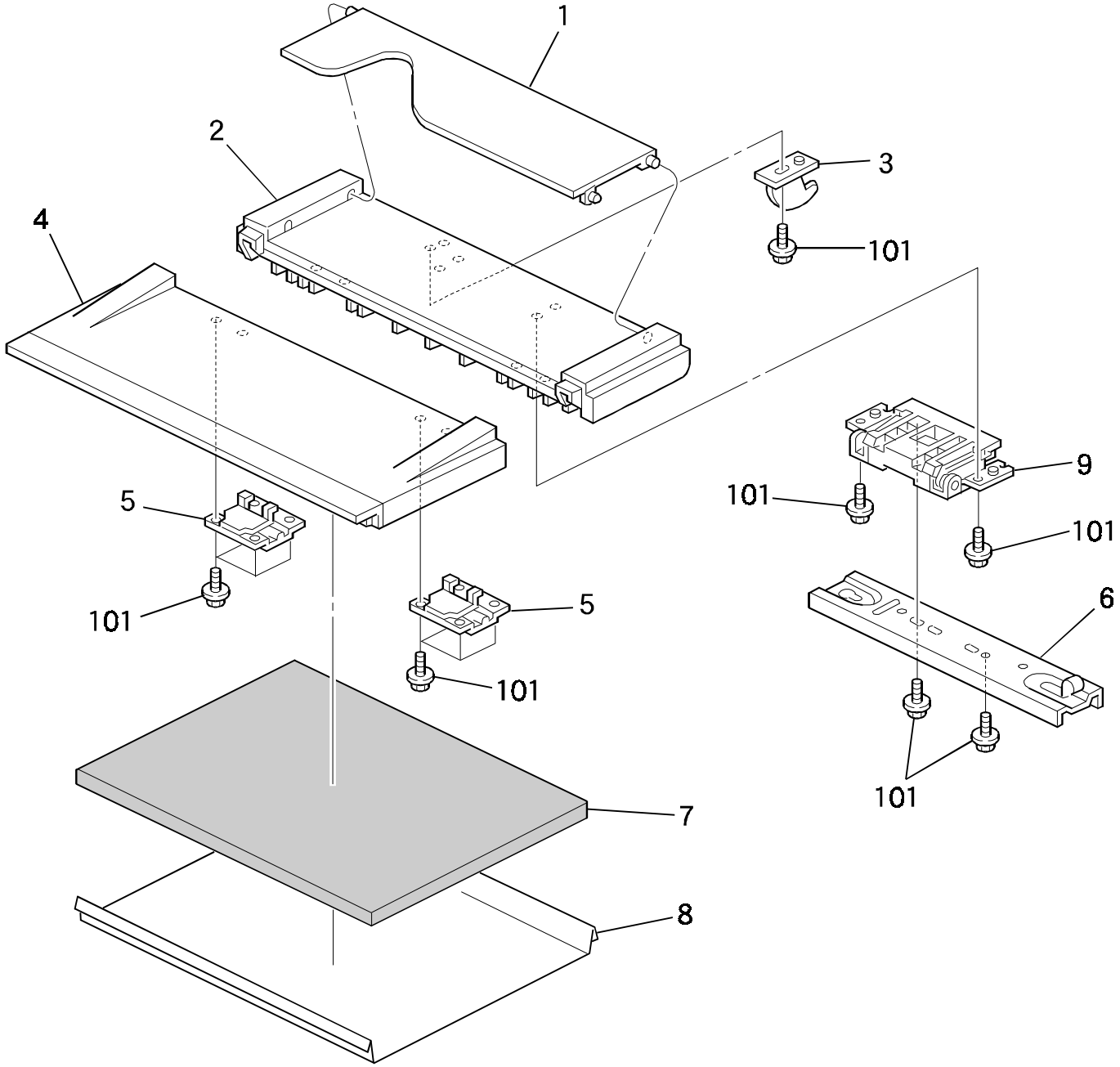


2. Exterior 2 (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A193 1358	Cap - RS232C	1
2	A193 1356	Cap - IC Card	1
3	A193 1207	Lower Left Cover	1
4	A193 1276	Middle Left Cover	1
5	G020 1327	Knob Screw - M3	1
6	A193 1210	Lower Rear Cover	1
7	A193 1348	Cap - G4	1
8	A193 1350	Cap - NCU	1
9	A193 1354	Cap - Memory	1
10	A193 1352	Cap - CSS	1
11	A193 1361	Cap - Paper Tray Unit	1
12	A193 1281	Rear Right Cover	1
13	A193 1345	Rivet - M20	1
14	A193 1291	Lower Right Cover	1
15	G020 2676	Support - Paper Tray - Right	1
16	G020 2620	Paper Size Detector	2
17	G020 5403	Harness - Paper Size Detector	1
18	G020 1316	Inner Cover - Paper Feed Tray	1
19	G020 2677	Support - Paper Tray - Left	1
20	G020 1326	Cap - Inverter Unit	1
21	A193 1316	Lower Exit Cover	1
22	A193 1349	Cap - Sorter	1
23	A193 1366	Fan Cover	1
24	G020 1351	Cap - Finisher	1
25	G020 1327	Knob Screw - M3	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0802 5255	Tapping Screw - M3	
102	0802 5256	Tapping Screw - M3x8	
103	0451 3014B	Tapping Screw - M3x14	

3. Platen Cover (A645)

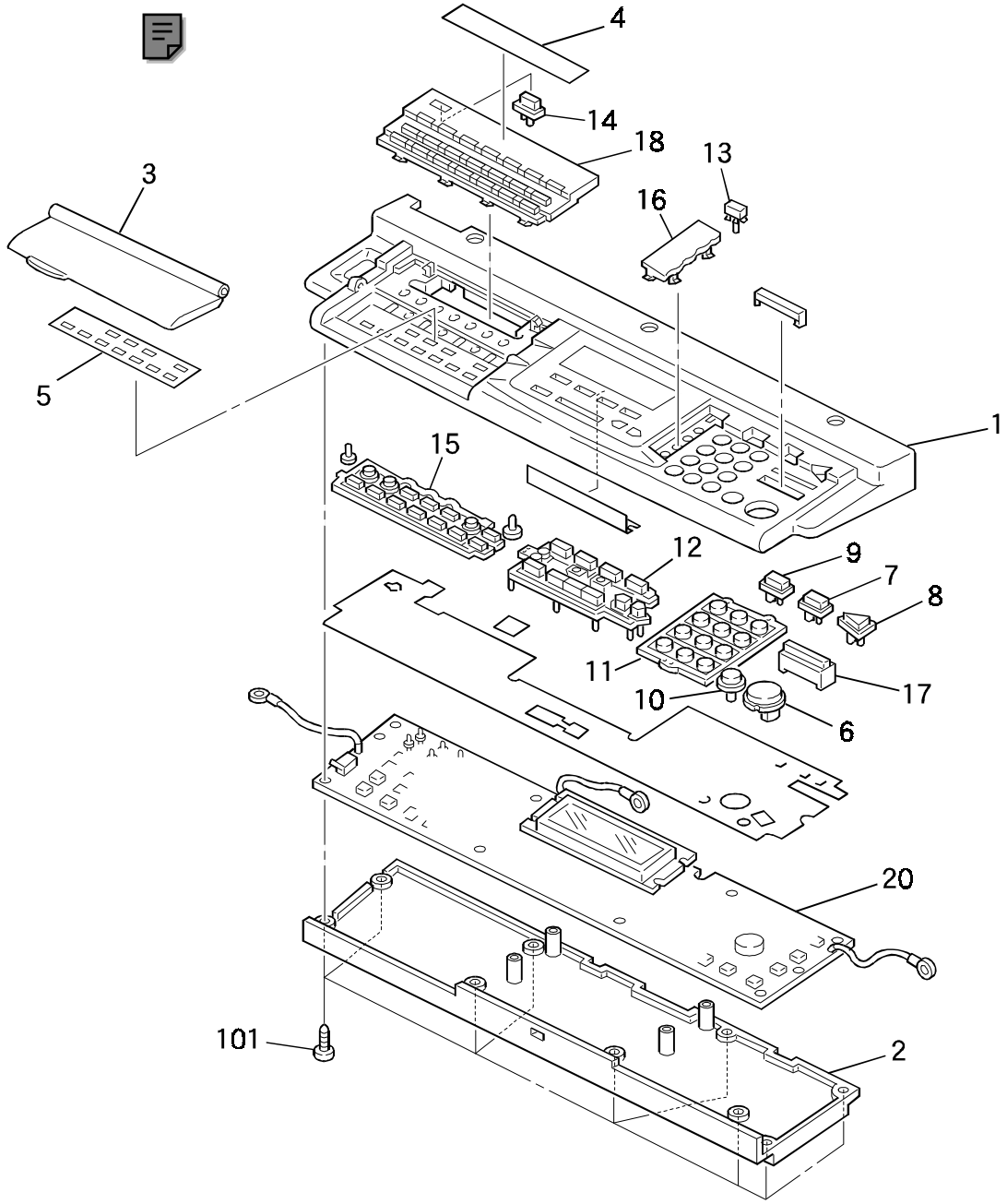


3. Platen Cover (A645)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A193 1396	Original Holder	1
2	A193 1391	Rear Platen Cover	1
3	A193 1381	Platen Cover Actuator	1
4	A193 1386	Front Platen Cover	1
5	A193 1317	Platen Cover Brack	2
6	A053 1957	Flex Hinge - Platen Cover	1
7	AA16 2067	Platen Cover Pad	1
8	5448 2804	Platen Cover Sheet	1
9	A193 1246	Platen Cover Hinge Ass'y	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0450 4012D	Tapping Screw - M4x12	

4. Operation Panel (A193)

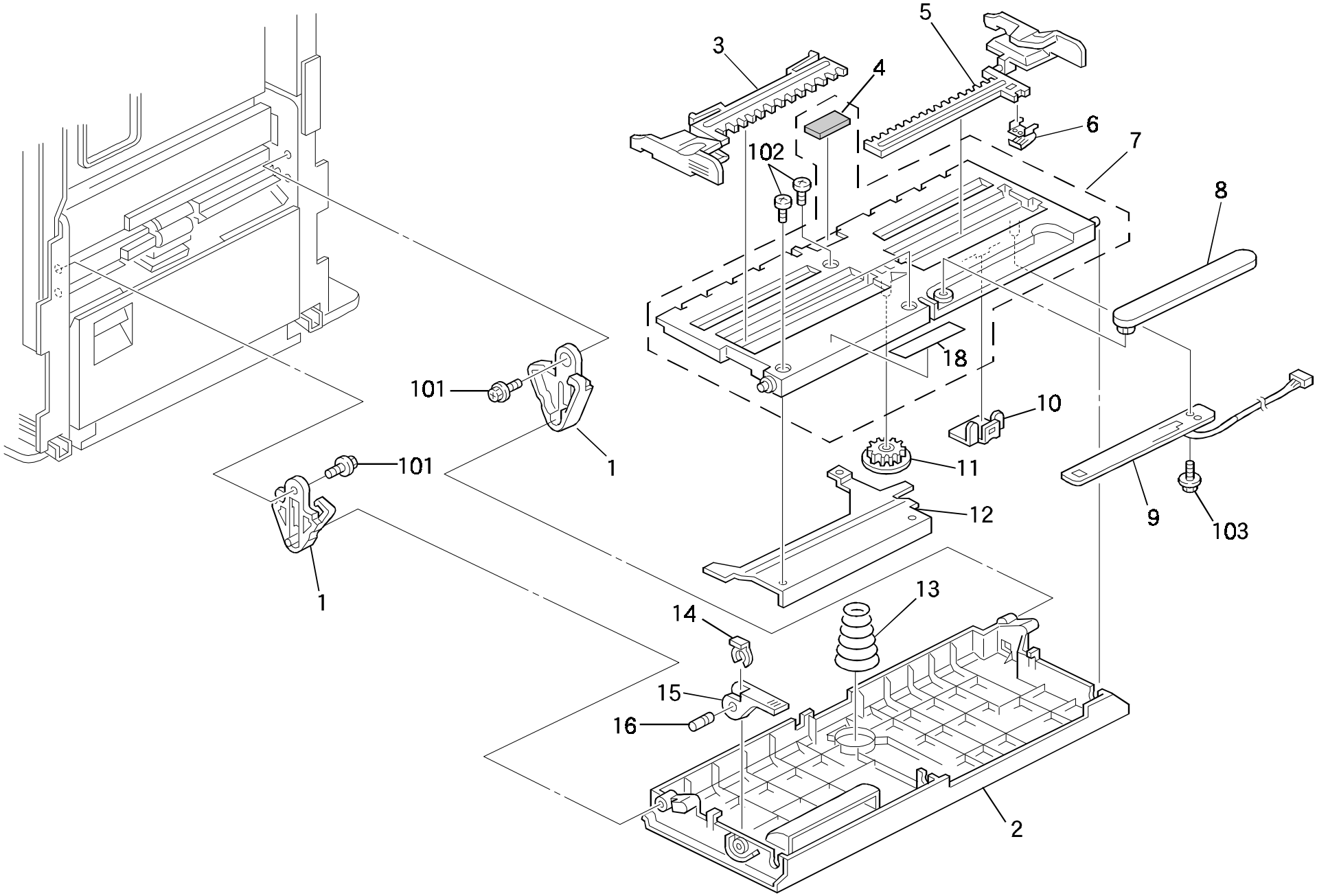


4. Operation Panel (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
*	A193 1451	Operation Panel Ass'y (LT)	1
*	A193 1452	Operation Panel Ass'y (A4)	1
1	A193 1455	Operation Panel Case (LT)	1
1	A193 1465	Operation Panel Case (A4)	1
2	A193 1472	Lower Case - Operation Panel	1
3	A193 1474	Lower Cover - Operation Panel	1
4	A193 1456	Decal - Operation Panel (LT)	1
4	A193 1466	Decal - Operation Panel (A4)	1
5	A193 1457	Sheet - Operation Panel (LT)	1
5	A193 1467	Sheet - Operation Panel (A4)	1
6	A193 1477	Key Top - Start	1
7	A193 1478	Key Top - Clear Mode	1
8	A193 1479	Key Top - Interrupt	1
9	A193 1480	Key Top - Program Mode	1
10	A193 1481	Key Top - Clear	1
11	A193 1461	Key Top - 10 Key (LT)	1
11	A193 1482	Key Top - 10 Key (A4)	1
12	A193 1483	Key Top - LCD	1
13	A193 1458	Key Top - Memory (LT)	1
13	A193 1468	Key Top - Memory (A4)	1
14	A193 1485	Key Top - Initial	1
15	A193 1486	Key Top - Behind	1
16	A193 1487	Right Cover - Operation Panel	1
17	A193 1488	Cover - Apprication	1
18	A193 1473	Upper Cover - Operation Panel	1
19	A193 1460	LCD (LT)	1
19	A193 1469	LCD (A4)	1
20	A193 1459	Operation Board (LT)	1
20	A193 1462	Operation Panel Board (A4)	1
21	A193 1483	Key Top - LCD	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0353 0050F	Tapping Screw - M3x5	

5. By-pass Feed Table (A193)

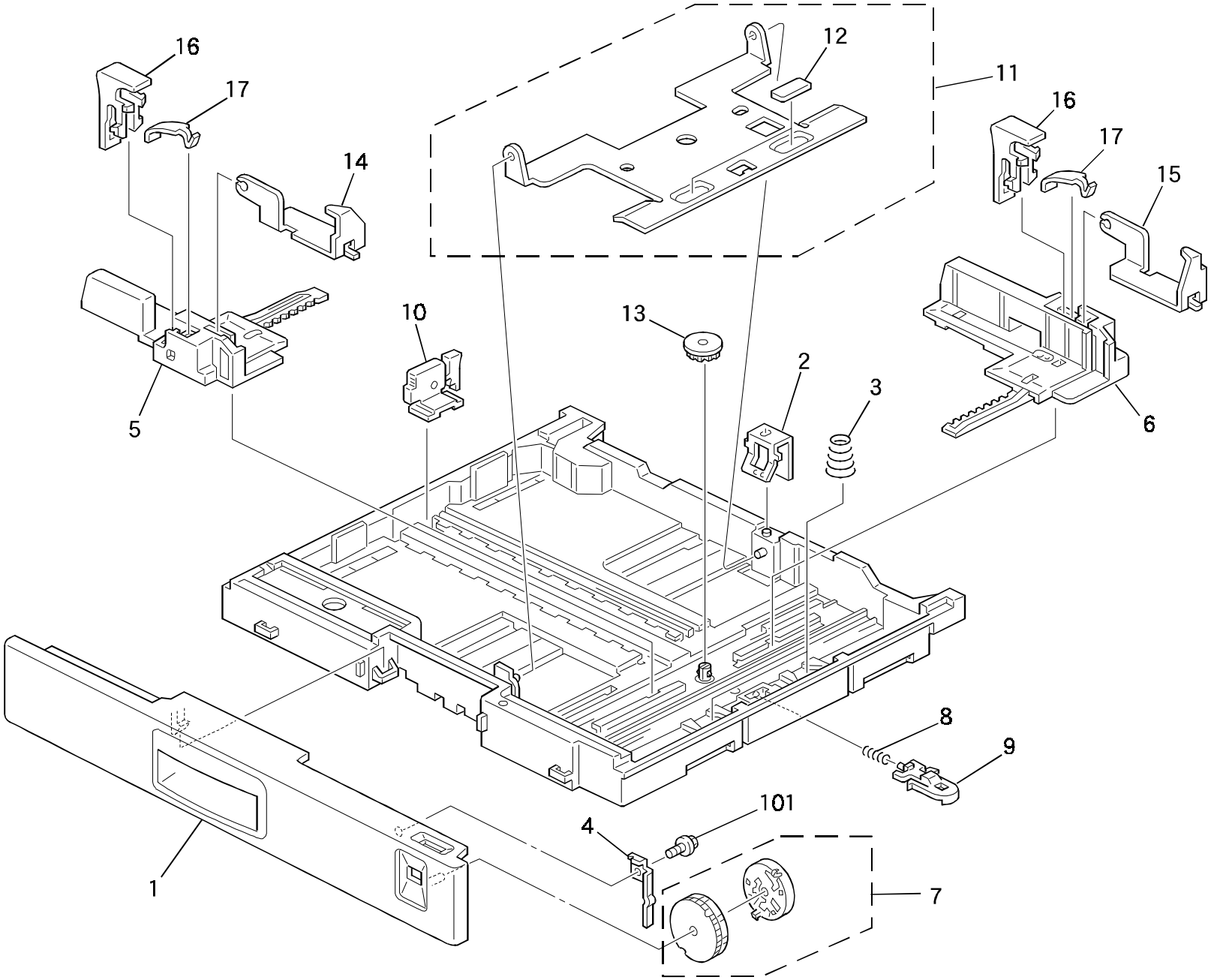


5. By-pass Feed Table (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 2735	Guide - By-pass Feed Table	2
2	G020 2701	Cover - By-pass Table	1
3	G020 2706	Left Side Fence - By-pass Feed	1
4	5215 2713	Bottom Plate Pad	1
5	G020 2705	Right Side Fence - By-pass Feed	1
6	G020 2707	Sensor Conductor - By-pass Feed	1
7	G020 2709	Bottom Plate - By-pass Table	1
8	A190 2702	Paper Guide	1
9	G020 5280	By-pass Feed Sensor	1
10	G020 2708	Spring Plate - By-pass Feed	1
11	G011 3305	Gear - 16T	1
12	G020 2782	Stay - By-pass Table	1
13	G020 2702	Pressure Spring - By-pass Feed Table	1
14	5447 2681	Snap Ring	1
15	G020 2784	Lever - By-pass Feed Table	1
16	G020 2786	Shaft - By-pass Release Lever	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	

6. Paper Tray (A193)

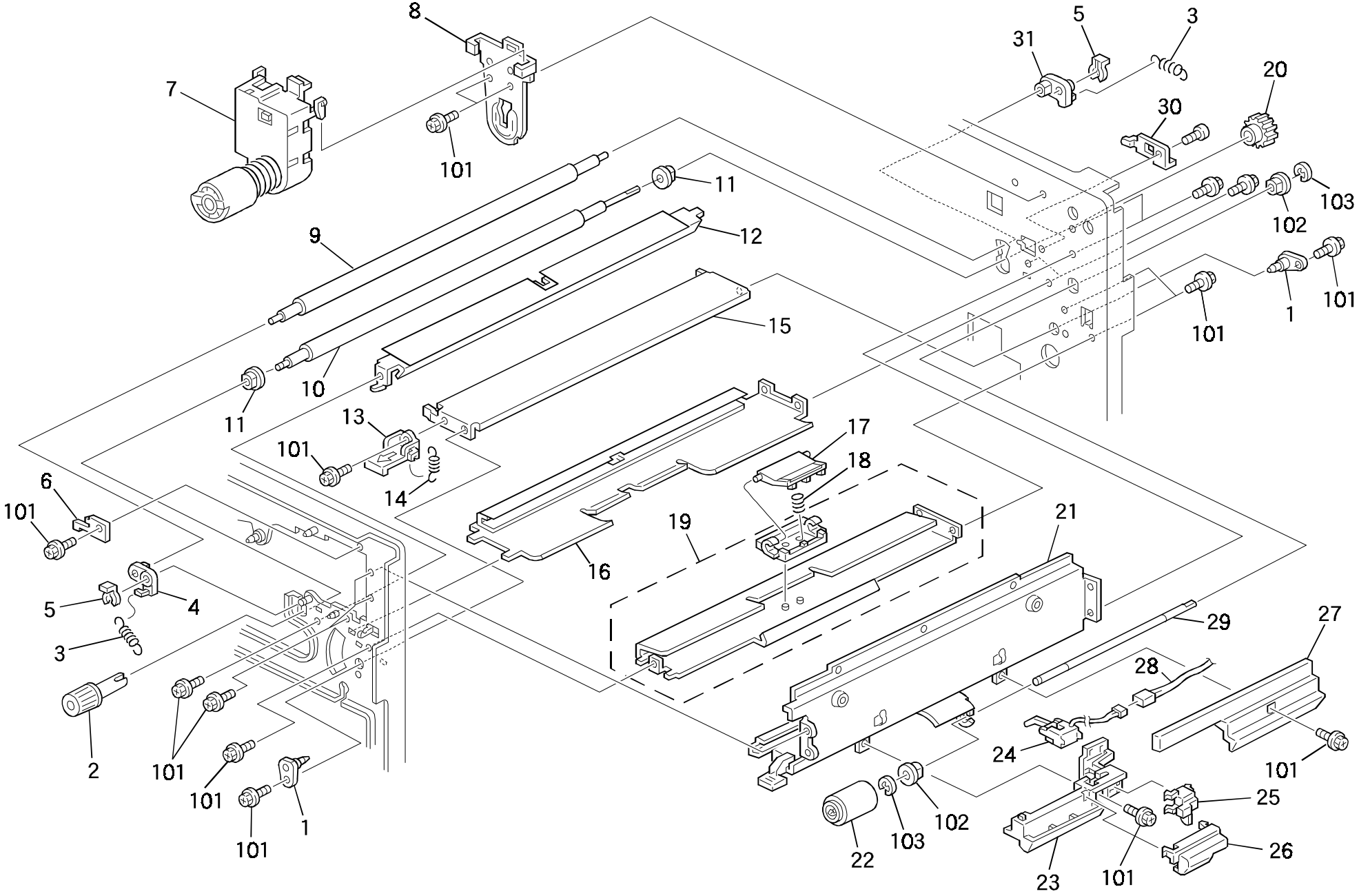


6. Paper Tray (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 2647	Paper Tray Cover	1
2	G020 2658	Grounding Plate - Bottom Plate	1
3	G020 2656	Pressure Spring - Bottom Plate	1
4	G020 2648	Holder - Paper Size Detector	1
5	G020 2560	Front Side Fence	1
6	G020 2567	Rear Side Fence	1
7	A193 2649	Paper Size Detector (LT)	1
7	A193 2650	Paper Size Detector (A4)	1
8	G020 2599	Spring - Release Lever	1
9	G020 2592	Release Lever - Bottom Plate	1
10	G020 2644	End Fence	1
11	G020 2661	Bottom Plate Ass'y	1
12	G020 2645	Friction Pad	2
13	AB01 3868	Gear - 16Z	1
14	G020 2561	Front Paper Separat	1
15	G020 2568	Rear Paper Separat	1
16	G020 2664	Front Stopper Lever	2
17	A157 2769	Rear Stopper Spring	2

Index No.	Part No.	Description	Q'ty Per Assembly

7. Resistration (A193)

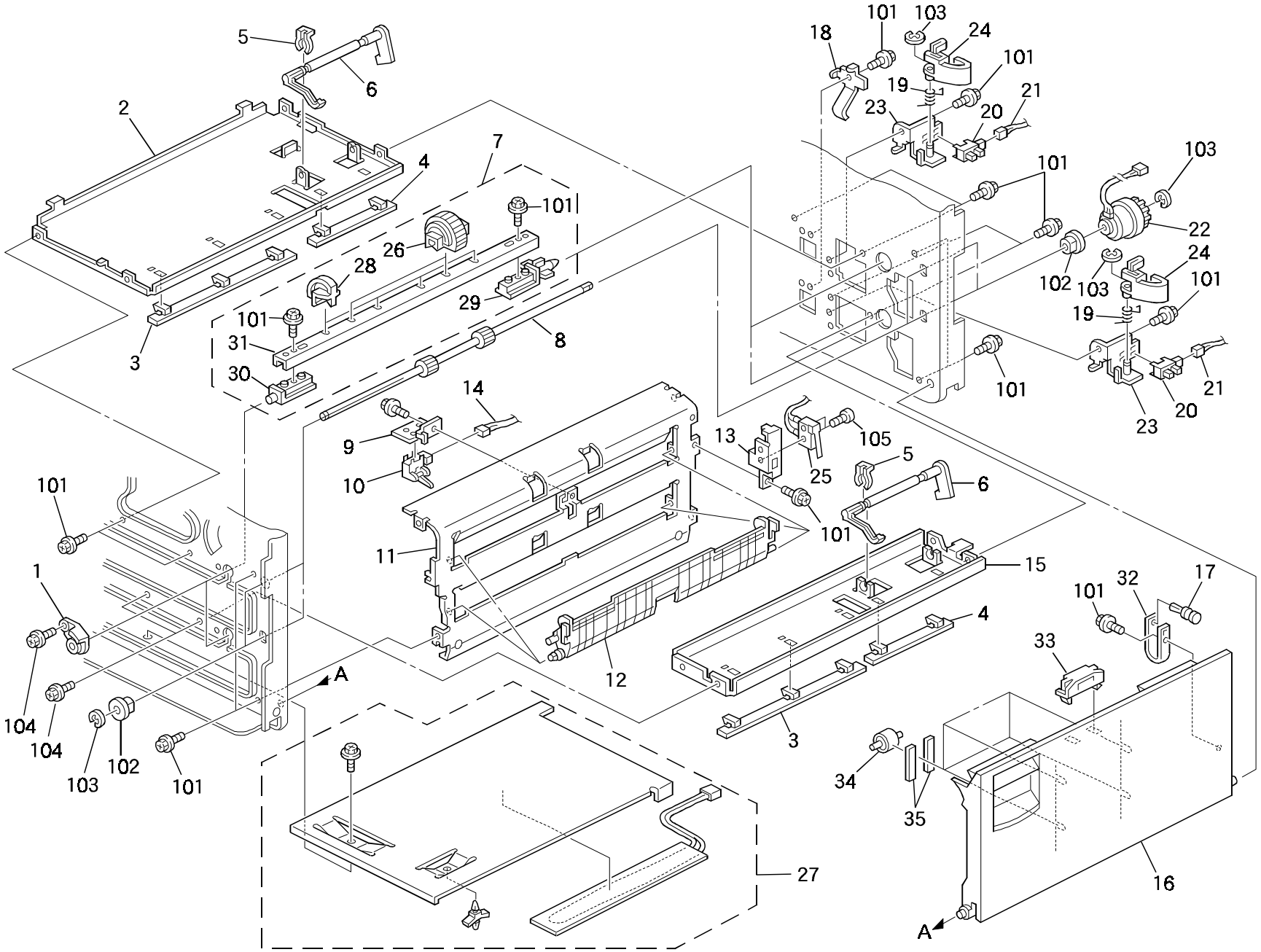


7. Resistration (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 3888	Pin - Transfer Guide	2
2	G020 2783	Registration Roller Knob	1
3	G020 2743	Tension Spring	2
4	G020 2780	Front Bushing - Registration	1
5	5447 2681	Snap Ring	2
6	G020 3365	Cover Guide - Toner Bottle (LT)	1
6	A193 3367	Cover Guide - Toner Bottle (A4)	1
6	A193 3371	Cover Guide - Toner Bottle (OEM)	1
7	G020 1111	Motor - DC 2.16W	1
8	G020 1161	Bracket - Toner Supply Motor	1
9	G020 2742	Upper Registration Roller	1
10	G020 2740	Lower Registration Roller	1
11	AA08 2070	Bushing - 8x16x7	2
12	G020 2745	Lower Guide Plate - Regist	1
13	G020 2765	Knob - Lower Transport Guide	1
14	AA06 0331	Release Spring	1
15	G020 2761	Lower Transport Guide	1
16	G020 2754	Upper Paper Guide	1
17	G020 2714	Friction Pad - By-pass Feed	1
18	G020 2713	Pressure Spring	1
19	G020 2719	Stay - By-pass Feed	1
20	G020 2744	Gear - 16Z	1
21	G020 3361	Guide Plate - Toner Supply	1
22	G020 2721	By-pass Feed Roller	1
23	G020 2753	Bracket - Registration Sensor	1
24	G020 2771	Registration Sensor	1
25	G020 2772	By-pass Paper End Sensor	1
26	G020 2787	Cover - By-pass Paper End Sensor	1
27	G020 2785	Cover - Feed Roller Shaft	1
28	G020 5417	Harness - Registration Sensor	1
29	G020 2723	By-pass Feed Shaft	1
30	A193 1090	Bracket - PCU	1
31	G020 2781	Rear Bushing - Registration Roller	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	
102	0805 3385	Bushing - 6 mm	
103	0720 0040E	Retaining Ring - M4	

8. Paper Feed Section (A193)



8. Paper Feed Section (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 2587	Bushing - Paper Feed	2
2	G020 1096	Right Shielding Plate	1
3	G020 2655	Upper Front Guide - Paper Tray	2
4	G020 2654	Upper Rear Guide - Paper Tray	2
5	5447 2681	Snap Ring	2
6	G020 2581	Paper End Feeler	2
7	G020 2554	Paper Feed Roller Ass'y	2
8	G020 2564	Relay Roller	1
9	G020 2589	Bracket - Vertical Transport Sensor	1
10	G020 2584	Photointerruptor	1
11	G020 2610	Left Vertical Transport Guide	1
12	G020 2613	Virtical Relay Guide	2
13	G020 2616	Bracket - Microswitch	1
14	G020 5408	Harness - Transport Sensor	1
15	G020 2618	Stay - Paper End Sensor	1
16	G020 2575	Guide Plate - Vertical Transport	1
17	A048 2838	Nylon Rivet	1
18	G020 2643	Front Grounding Plate - Paper Tray	2
19	G020 2626	Release Spring - Paper End Feeler	2
20	AW02 0075	Photointerrupter	2
21	G020 5409	Harness - Paper End Sensor	1
22	G020 1113	Relay Roller Clutch	2
23	G020 2580	Paper End Sensor Bracket	2
24	G020 2622	Release Arm - Paper End Feeler	2
25	G020 2615	Microswitch	1
26	**G020 2555**	**Paper Feed Roller**	**4**
27	A193 9800	Tray Heater - 115V	1
27	A193 9801	Tray Heater - 230V	1
28	G020 2565	Paper Guide	8
29	G020 2586	Rear Shaft - Paper Feed Roller	2
30	G020 2585	Front Shaft - Paper Feed Roller	2
31	G020 2570	Shaft - Paper Feed Roller	2
32	G020 2625	Holder - Vertical Transport Guide	1
33	G020 2630	Magnetic Catch	1
34	AF02 0283	Pressure Roller	4
35	G020 2577	Spring Plate - Driven Roller	8
101	0451 3006B	Tapping Screw - M3x6	
102	0805 3480	Bushing - 6 mm	
103	0720 0040E	Retaining Ring - M4	
104	0451 3008B	Tapping Screw - M3x8	
105	0242 0080B	Philips Pan Head Screw - M2X8	

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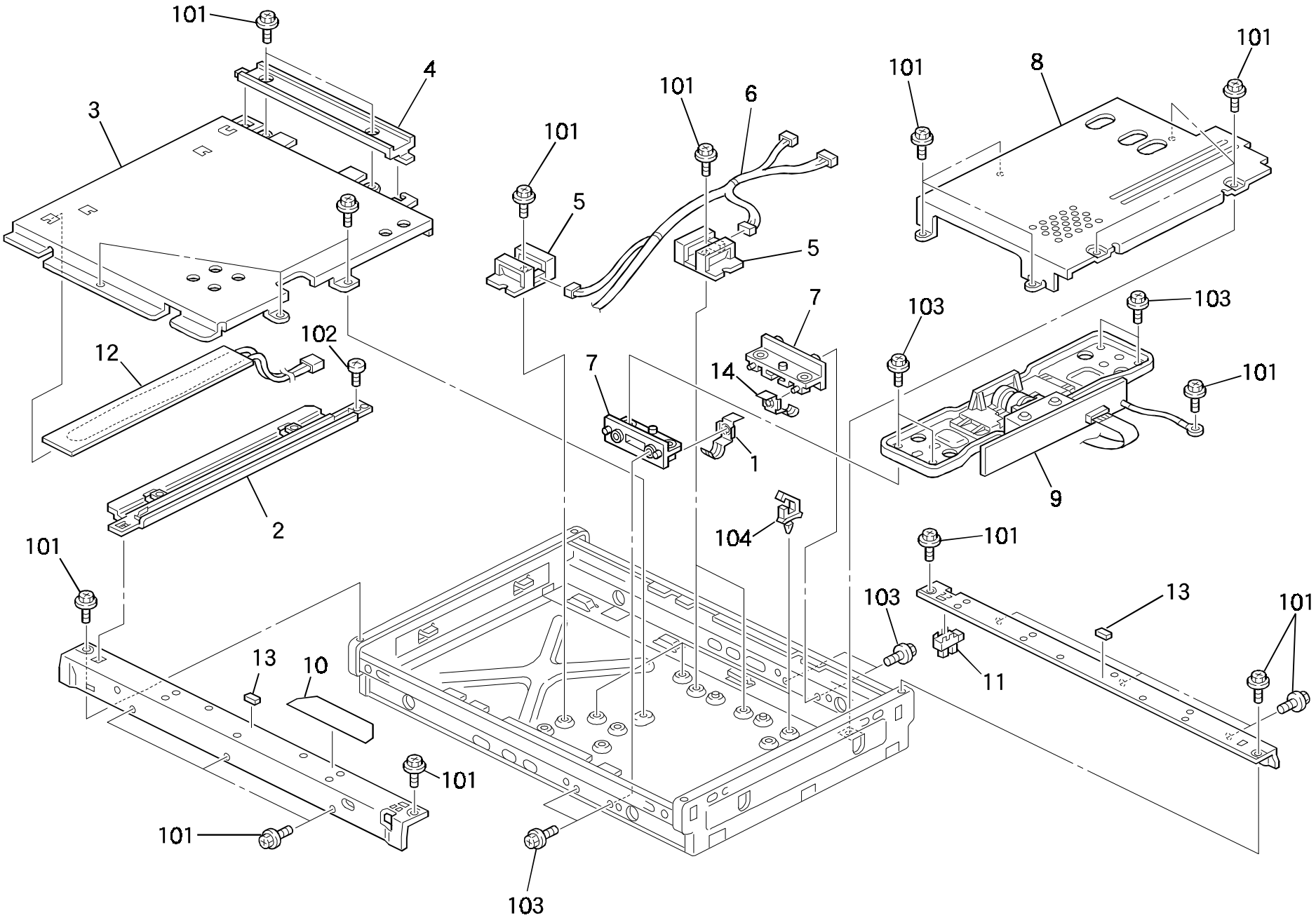
9. Optics Section 1(A193)

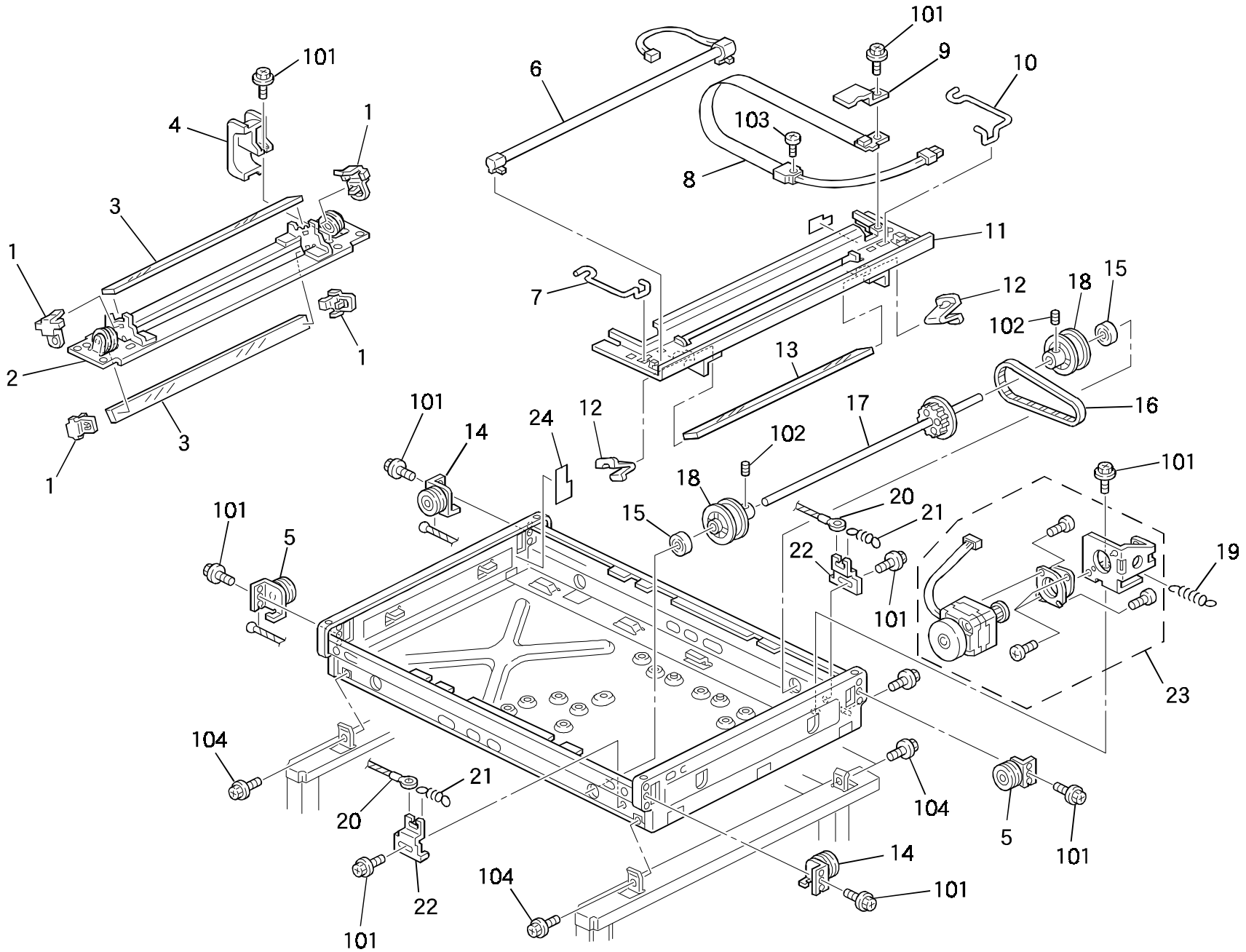


9. Optics Section 1(A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A193 1790	Grounding Plate - Lens Block	1
2	A193 1754	Bracket - Left Origial Scale	1
3	A193 1824	Left Inner Cover - Scanner Unit	1
4	A193 1781	Lower Harness Guide	1
5	A193 5906	Original Sensor	3
6	A193 5414	Harness - Scanner Unit	1
7	A193 1826	Lens Block Holder	2
8	A193 1689	Right Inner Cover - Scanner Unit	1
9	A193 1673	Lens Holder Ass'y	1
10	A193 1819	Front Seal - Scanner Frame	1
11	AW02 0075	Photointerrupter	1
12	AX40 0089	Anticondensation Heater - 230V	1
12	AX40 0088	Anticondensation Heater - 115V	1
13	5442 1924	Exposure Glass Cushion	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	
102	0353 0050F	Tapping Screw - M3x5	
103	0450 3010B	Tapping Screw - M3x10	
104	1105 0460	Clamp	

10. Optics Section 2 (A193)

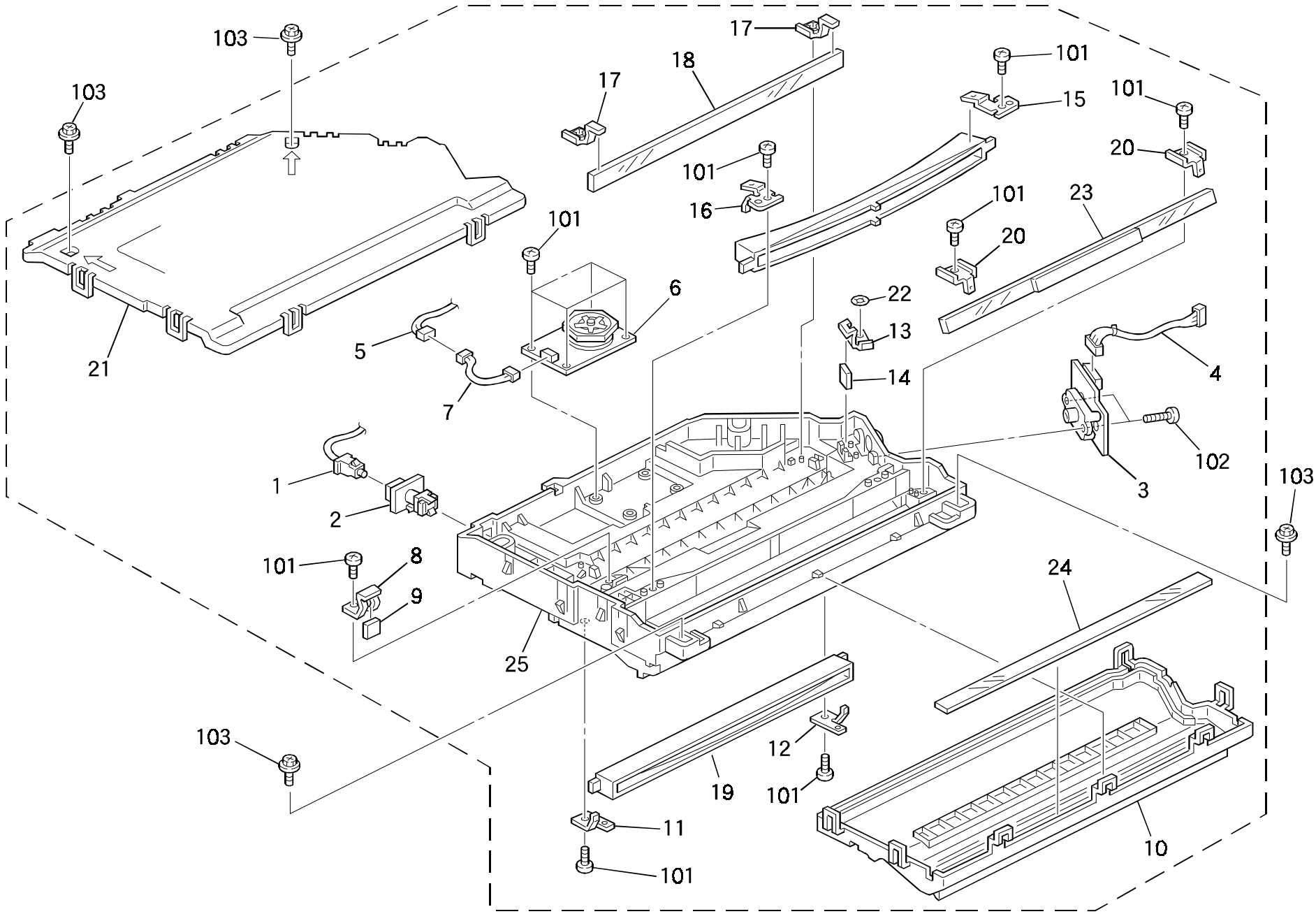


10. Optics Section 2 (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A193 1777	2nd/3rd Mirror Holder	4
2	A193 1770	2nd Scanner Ass'y	1
3	A193 1669	2nd/3rd Mirror	2
4	A193 1776	Upper Harness Guide	1
5	A193 1841	Pulley - Front Left	2
6	A193 5702	Exposure Lamp	1
7	A193 1766	Wire Clamp	1
8	A193 5703	Exposure Lamp Harness	1
9	A193 1799	Harness Guide - Exposure Lamp	1
10	A193 1769	Wire Clamp	1
11	A193 1760	1st Scanner Ass'y	1
12	A193 1767	1st Mirror Holder	2
13	A193 1764	1st Mirror	1
14	A193 1845	Pulley - Rear Left	2
15	A193 1829	Ball Bearing - M8	2
16	A193 1840	Timing Belt - L220 B8	1
17	A193 1682	Scanner Drive Pulley Ass'y	1
18	A193 1832	Front Scanner Pulley	2
19	A193 1784	Tension Spring	1
20	A193 1838	Scanner Drive Wire	2
21	A193 1783	Tension Spring	2
22	A193 1849	Tension Bracket	2
23	A193 1690	Scanner Motor - DC 5.64W	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	
102	0575 0050E	Hexagon Headless Set Screw - M5x5	
103	0453 3014B	Tapping Screw - M3x14	
104	0451 3008B	Tapping Screw - M3x8	

11. Laser Unit (A193)

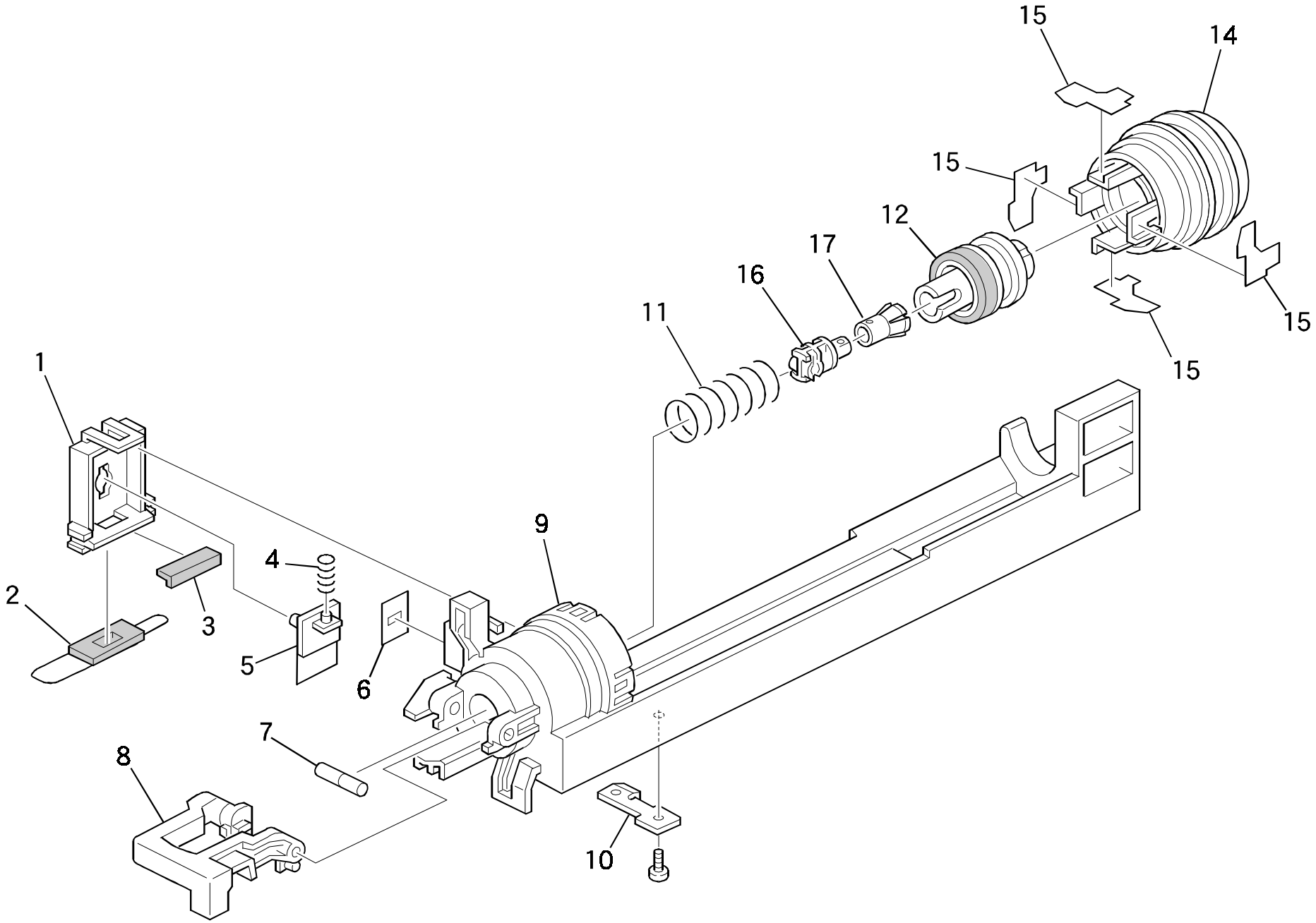


11. Laser Unit (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A193 5742	LD Unit Harness (230V)	1
1	A193 5220	LD Unit Harness (115V)	1
2	G020 1912	Sync Detector	1
3	A193 1853	Laser Unit (115V)	1
3	A193 1855	Laser Unit (230V)	1
4	A193 1861	LD Unit Ass'y (115V)	1
4	A193 1865	LD Unit Ass'y (230V)	1
5	A193 5438	Relay Harness - Polygon Mirror Motor	1
6	G020 1961	Polygon Mirror Motor	1
7	G020 5439	Harness - Polygon Mirror Motor	1
8	G020 1915	Sync Detector Mirror Holder	1
9	G020 1911	Sync Detector Mirror	1
10	G020 1902	Lower Cover - Laser Unit	1
11	G020 1903	Right Holder - BTL Lens	2
12	G020 1904	Left Holder - BTL Lens	1
13	G020 1905	Cylindrical Lens Holder	1
14	G020 1966	Cylindrical Lens	1
15	G020 1906	Left Holder - F Theta Mirror	1
16	G020 1907	Right Holder - F Theta Mirror	1
17	G020 1908	1st Mirror Holder	2
18	G020 1964	1st Mirror - Laser Unit	1
19	G020 1969	BTL Lens	1
20	G020 1909	2nd Mirror Holder	2
21	G020 1910	Laser Unit Cover	1
22	G020 1923	CS Ring - M2.4	1
23	G020 1928	2nd Mirror - Laser Unit	1
24	G020 1962	Shield Glass	1
25	G020 1900	Laser Unit Case	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0452 3008B	Tapping Screw - M3x8	
102	0452 3010B	Tapping Bind Screw - M3x10	

12. Toner Hopper Unit (A193)

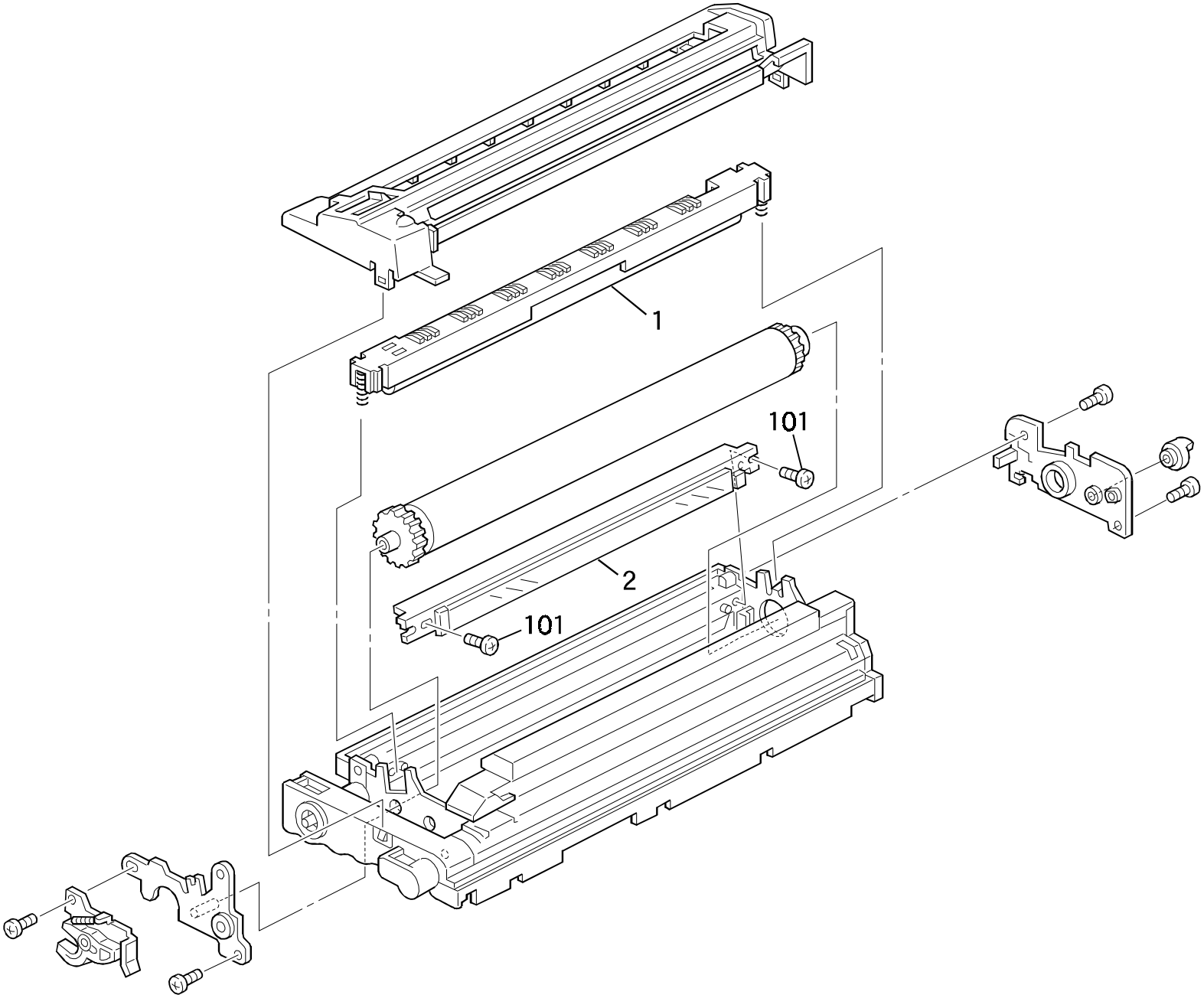


12. Toner Hopper Unit (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 3311	Cover - Toner Supply	1
2	G020 3340	Lower Seal - Toner Supply	1
3	G020 3345	Right Seal - Toner Supply	1
4	G020 3313	Spring - Toner Supply Cover	1
5	G020 3317	Shutter - Toner Supply	1
6	G020 3312	Gate - Toner Supply	1
7	A184 3422	Toner Slider	1
8	G020 3339	Handle - Toner Supply	1
9	G020 3314	Toner Supply Unit	1
10	G020 3320	Hook - Toner Supply Unit	1
11	A184 3411	Chuck Spring	1
12	G020 3334	Slider - Toner Supply	1
14	G020 3322	Cover - Toner Supply Unit	1
15	G020 3325	Sheet - Agitator	4
16	A184 3421	Chuck Shaft	1
17	A184 3420	Bottle Chuch	1

Index No.	Part No.	Description	Q'ty Per Assembly

13. P.C.U. (A193)

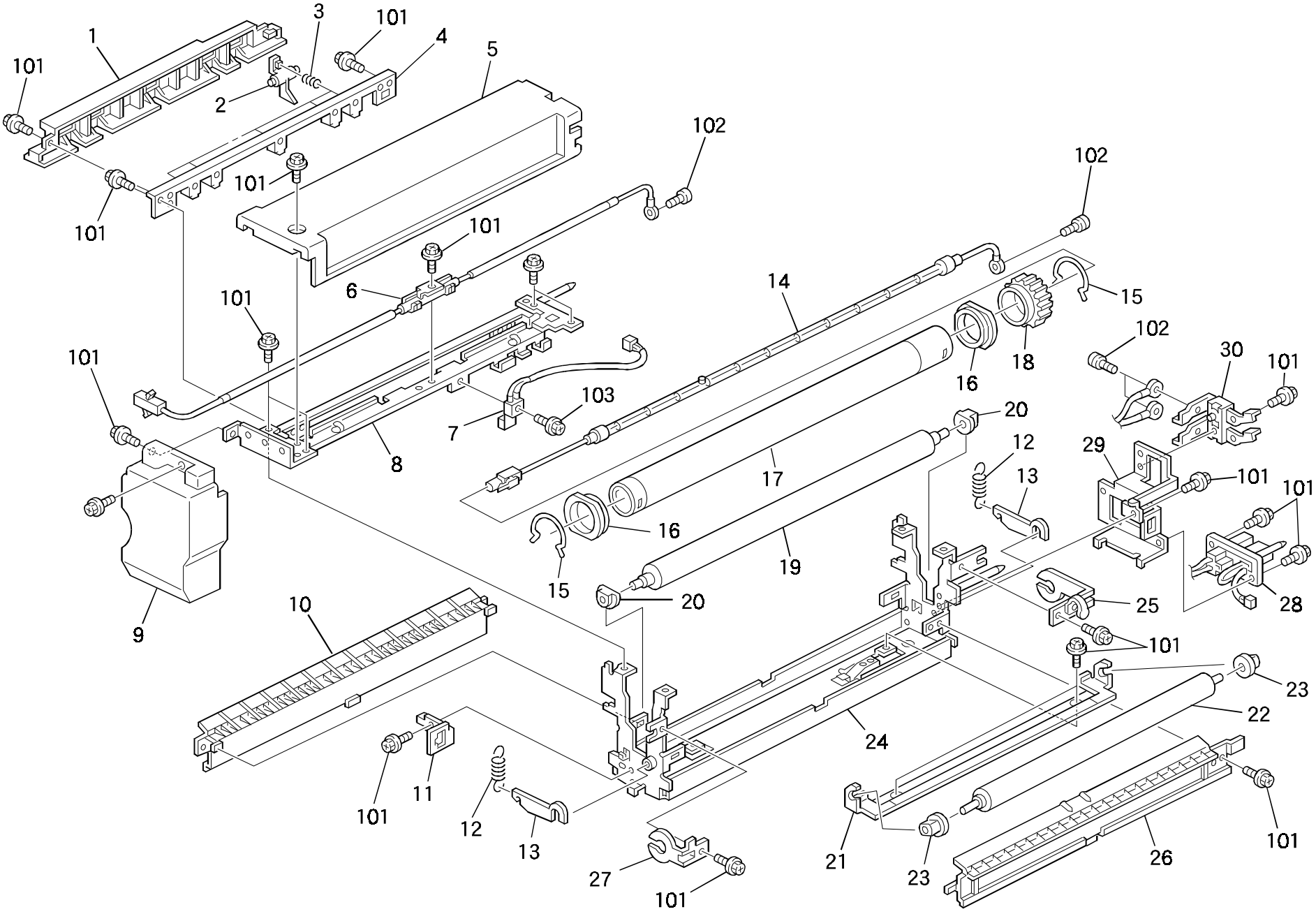


13. P.C.U. (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 2020	Charge Roller Ass'y	1
2	G020 3550	Cleaning Blade	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0452 3008B	Tapping Screw - M3x8	

14. Fusing Unit (A193)

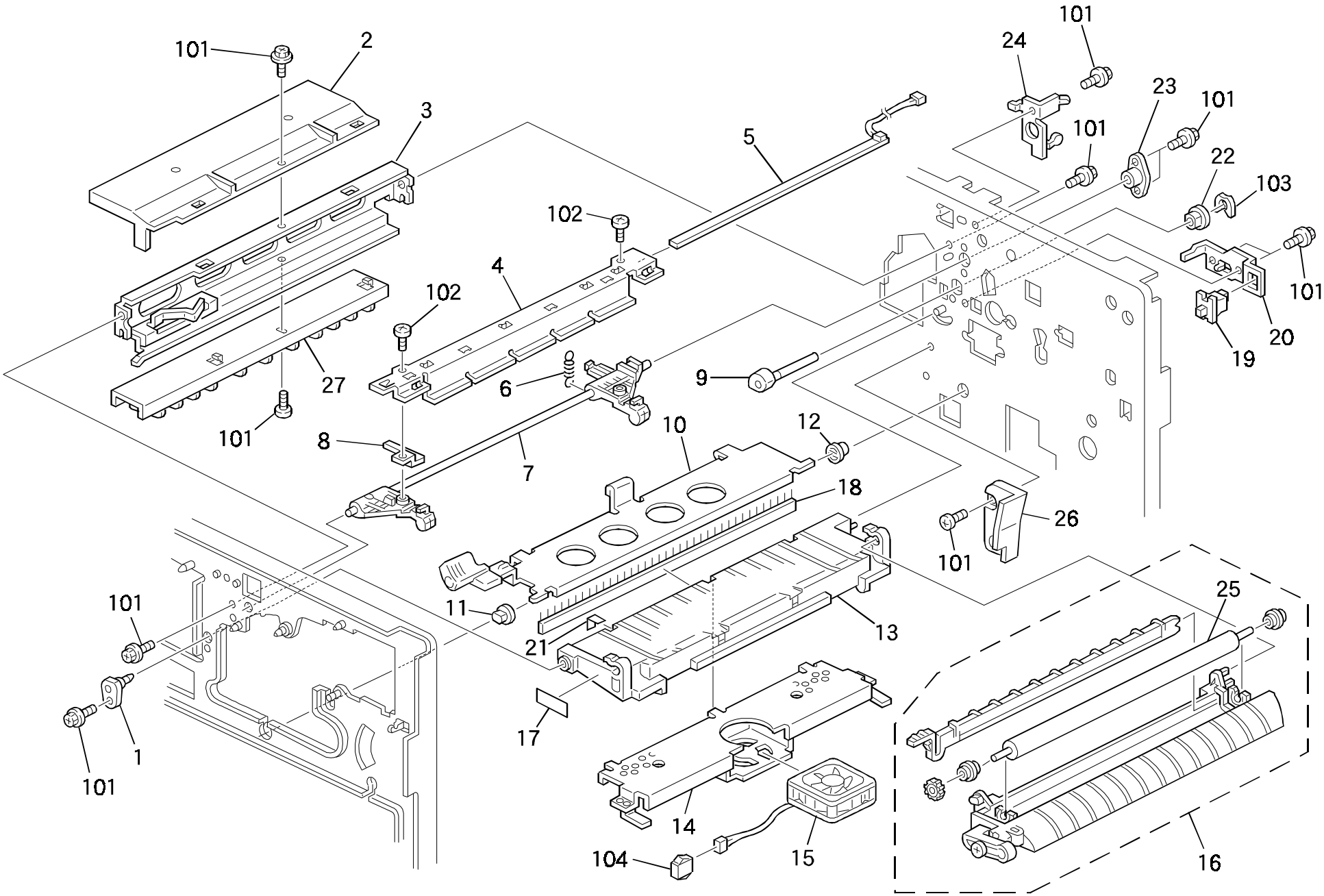


14. Fusing Unit (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
*	A193 4017	Fusing Unit (115V)	1
*	A193 4027	Fusing Unit (230V)	1
1	G020 4149	Upper Exit Guide - Fusing Unit	1
2	**G020 4178**	**Hot Roller Stripper**	**5**
3	G020 4193	Spring - Hot Roller Stripper	5
4	G020 4179	Bracket - Hot Roller Stripper	1
5	G020 4129	Upper Fusing Cover	1
6	G020 4133	Thermofuse - 169°C	1
7	G020 4185	Fusing Thermistor	1
8	G020 4130	Star - Fusing Unit	1
9	G020 4166	Front Fusing Cover	1
10	G020 4147	Lower Exit Guide - Fusing Unit	1
11	G020 4152	Connector Bracket - Fusing Unit	1
12	G020 4191	Pressure Spring	2
13	G020 4145	Pressure Lever - Fusing Unit	2
14	A193 4187	Fusing Lamp - 120V 800W	1
14	A193 4188	Header - 230V 700W	1
15	G020 4174	C-ring - Hot Roller	2
16	G020 4173	Bushing - 36 mm	2
17	**G020 4170**	**Hot Roller**	**1**
18	G020 4177	Gear - 40Z	1
19	**G020 4180**	**Pressure Roller**	**1**
20	G020 4175	Bushing - Pressure Roller	2
21	G020 4112	Bracket - Cleaning Roller	1
22	AE04 2009	Cleaning Roller	1
23	G020 4176	Bushing - Cleaning Roller	2
24	G020 4141	Fusing Unit Frame	1
25	G020 4159	Rear Holder - Fusing Lamp	1
26	G020 4146	Lower Entrance Guide	1
27	G020 4161	Front Holder Fusing Lamp	1
28	A193 4183	Fusing Unit Harness (115V)	1
28	A193 4184	Fusing Unit Harness (230V)	1
29	G020 4151	Bracket - Fusing Connector	1
30	G020 4163	Heater Socket	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	
102	0950 4006M	Philips Screw With Flat Washer - M4x6	
103	0451 3010B	Tapping Screw - M3x10	

15. Paper Exit Section (A193)



15. Paper Exit Section (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 3888	Pin - Transfer Guide	1
2	G020 1106	Right Duct	1
3	G020 1098	Stay - OPU	1
4	G020 2105	Bracket - Quenching Lamp	1
5	G020 2104	Quenching Lamp	1
6	G020 2103	Tension Spring	1
7	G020 2107	Pressure Lever - Charge Roller	1
8	G020 2148	Grounding Plate - Quenching Lamp	1
9	G020 2121	CAM - Charge Roller	1
10	G020 3910	Stay - Transfer Unit	1
11	G020 3914	Bushing - Front Transfer Unit	1
12	G020 3915	Bushing - Rear Transfer Unit	1
13	G020 3880	Transport Guide Plate	1
14	G020 3882	Grounding Plate - Transfer Guide	1
15	G020 3887	Fan Motor - DC 3.12W	1
16	**A673 3881**	**Transfer And Separation Unit**	**1**
17	G020 4128	Decal - High Temperature	1
18	G020 3897	Discharge Brush - Transport	1
19	G020 5626	Push Switch	1
20	G020 5817	Bracket - OPU Switch	1
21	G020 3896	Grounding Plate - Discharge Brush	1
22	AA08 2070	Bushing - 8x16x7	1
23	G020 2106	Bushing - Pressure Lever	1
24	G020 1194	Bracket - Fusing Drive Gear	1
25	G020 3852	Transfer Roller	1
26	G020 3940	Guide - Transfer Roller Unit	1
27	G020 1088	Front Guide - Fusing Unit	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	
102	0452 3008B	Tapping Screw - M3x8	
103	0805 0088	Retaining Ring - M6	
104	1102 6245	Connector - 2P	

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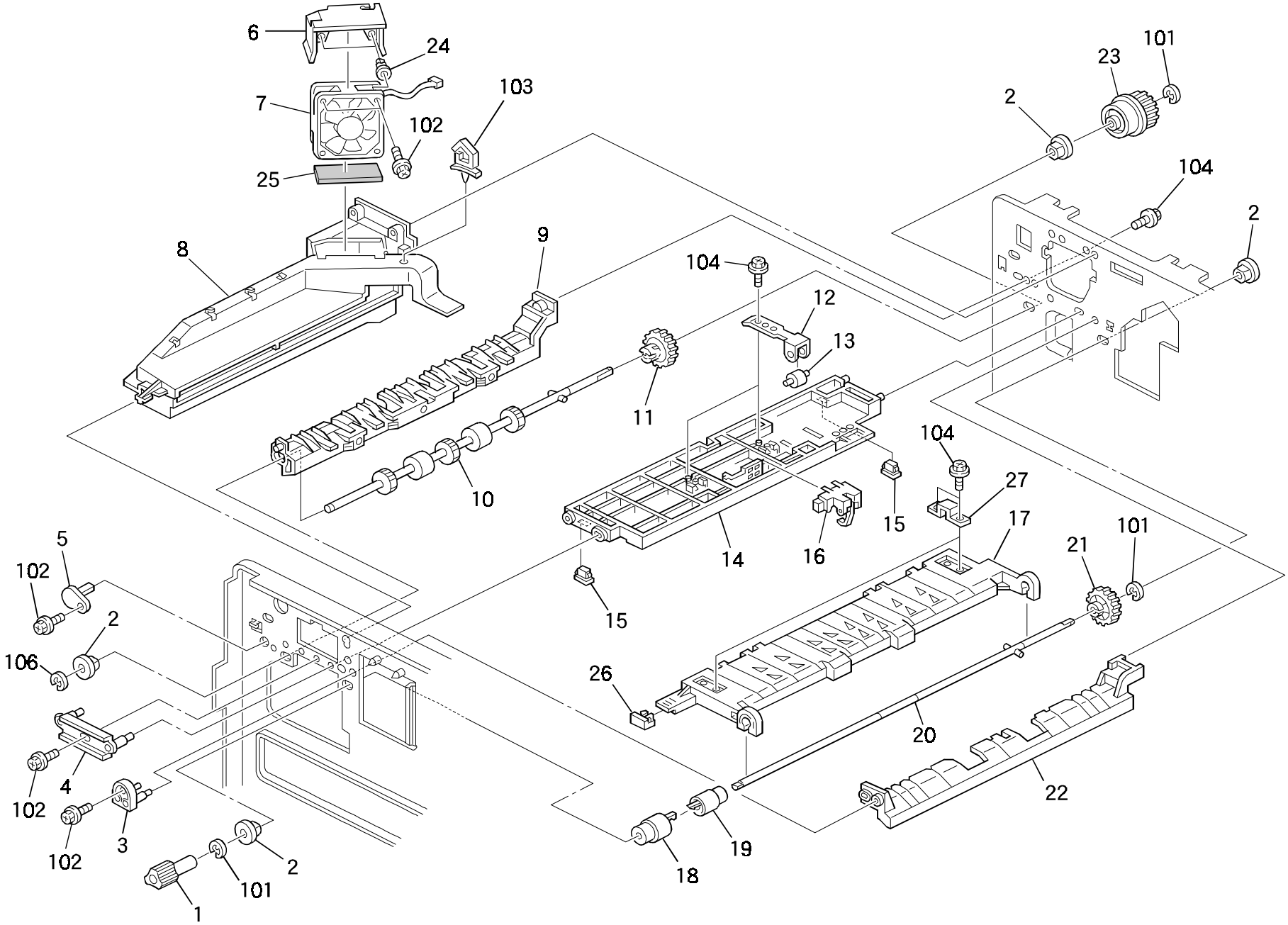
16. Transport Section 1 (A193)

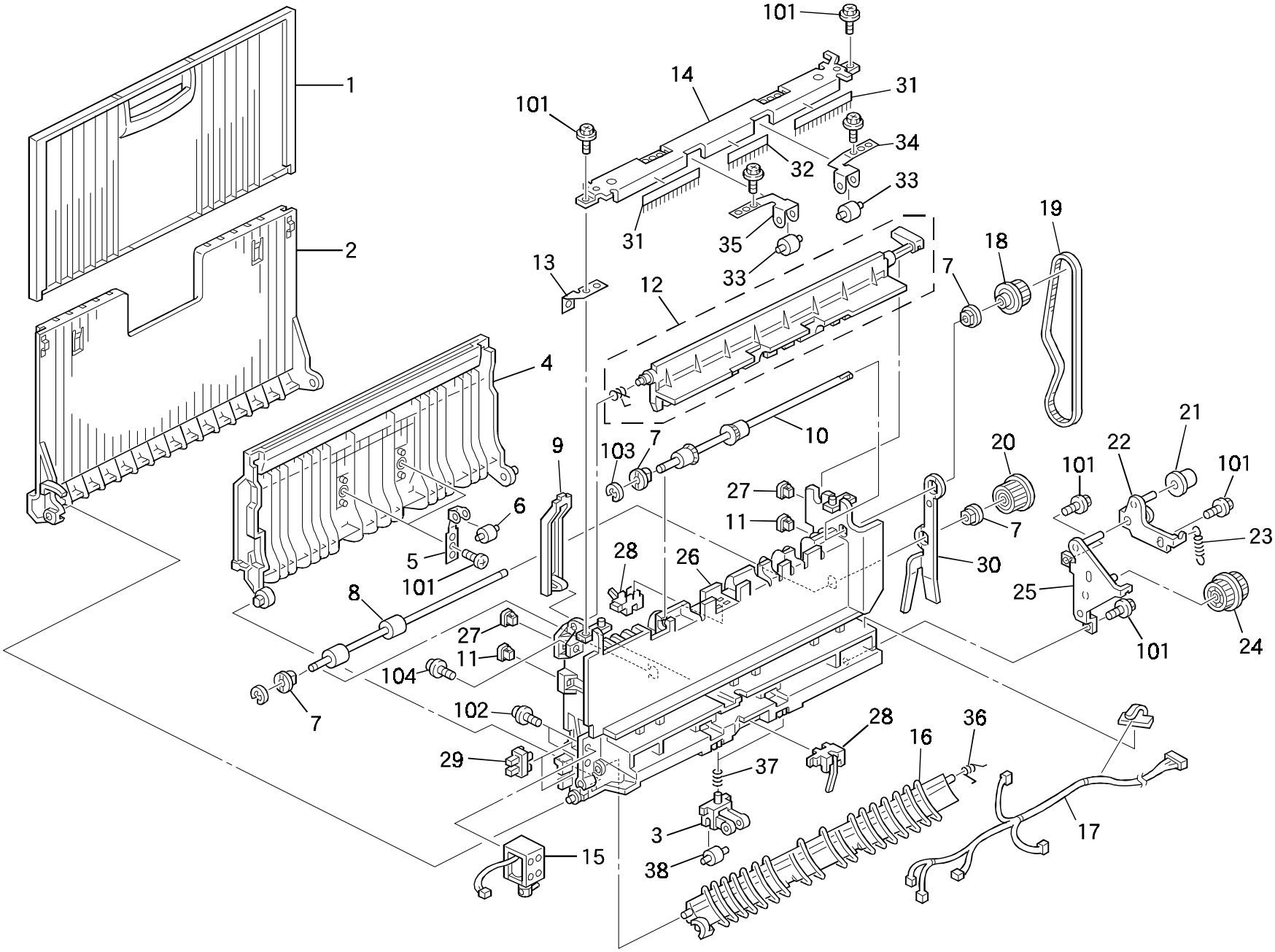


16. Transport Section 1 (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 4480	Fusing Knob	1
2	G020 4479	Bushing - 6 mm	4
3	G020 4477	Support Bracket - Transport Plate	1
4	G020 4476	Guide Plate Holder	1
5	G020 4331	Front Stud - 1 Bin Sorter	1
6	G020 1104	Fan Motor Holder	1
7	AX64 0058	Fan Motor - DC 24V 4.32W	1
8	G020 1100	Duct	1
9	G020 4459	Relay Guide - Transport Roller	1
10	G020 4414	Transport Roller Ass'y	1
11	G020 4487	Gear - 26Z	1
12	G020 4491	Roller Holder	2
13	AF04 0031	Upper Exit Roller	2
14	G020 4473	Upper Transport Guide	1
15	G012 1531	Magnet	2
16	G020 4490	Paper Exit Sensor	1
17	G020 4412	Lower Transport Plate Ass'y	1
18	G020 4457	Transport Roller - 1	1
19	G020 4458	Transport Roller - 2	1
20	G020 4413	Shaft - Transport Roller	1
21	G020 4489	Gear - 24Z	1
22	G020 4475	Guide Plate - Transport	1
23	G020 4456	Pulley - 33Z	1
24	G020 1107	Nut - M4	1
25	G020 1105	Cushion - Fan Motor	1
26	G020 4492	Knob - Guide Plate	1
27	G020 4493	Magnet	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0720 0040E	Retaining Ring - M4	
102	0451 3006B	Tapping Screw - M3x6	
103	1105 0310	Wire Clamp	
104	0450 3008B	Tapping Screw - M3x8	

17. Transport Section 2 (A193)

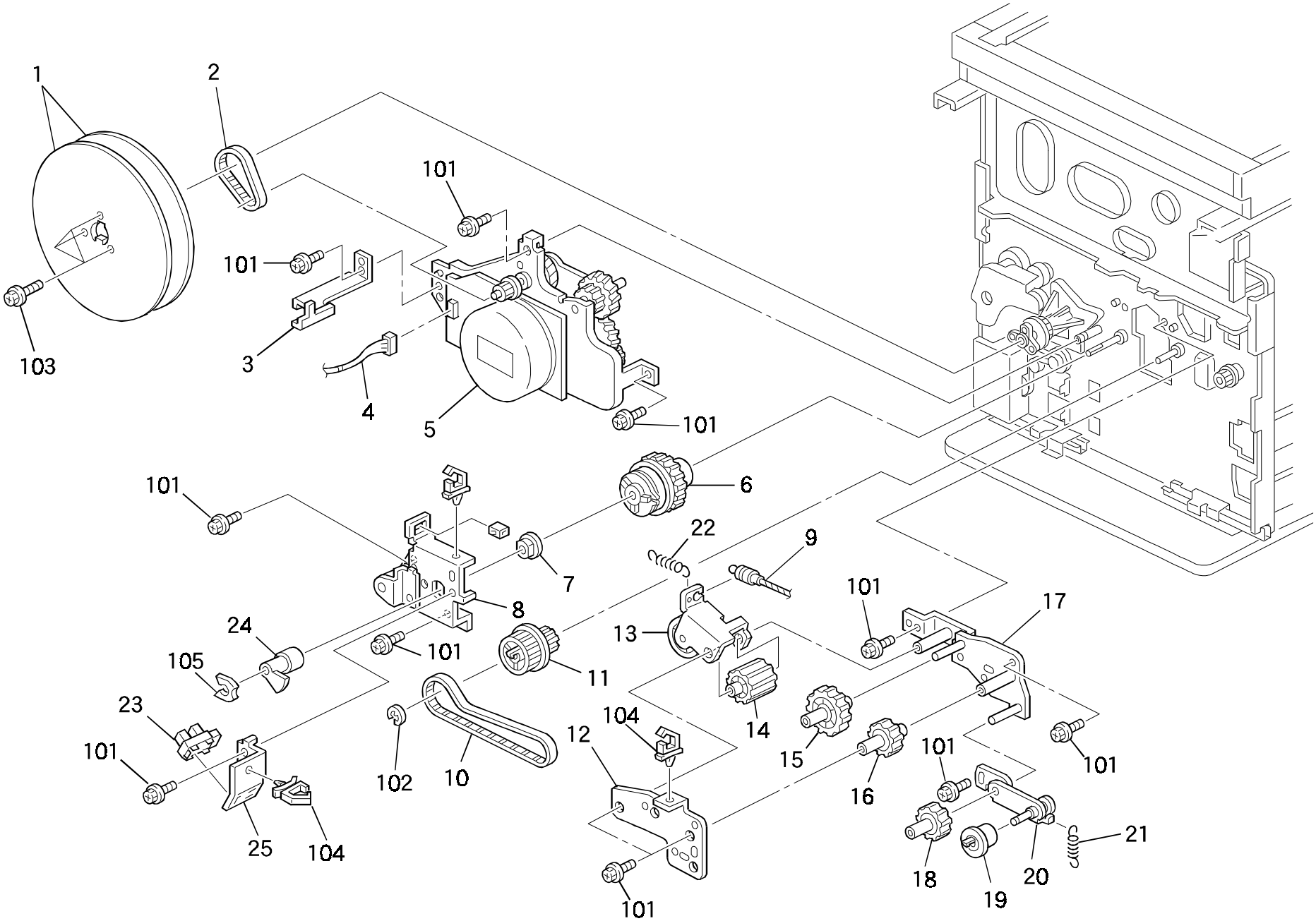


17. Transport Section 2 (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 4423	Sub Copy Tray - FU	1
2	G020 4419	Left Cover Tray	1
3	G020 4463	Roller Holder	2
4	G020 4452	Right Vertical Guide	1
5	G020 4446	Spring Plate - Roller	2
6	G012 4865	Exit Roller	2
7	G020 4466	Bushing - M6	4
8	G020 4426	Exit Relay Roller	1
9	G020 4465	Harness Cover	1
10	G020 4427	Exit Roller - FD	1
11	G012 1531	Magnet	2
12	G020 4411	Paper Exit Pawl	1
13	G020 4453	Grounding Plate	1
14	G020 4468	Stay - FD	1
15	G020 4439	Junction Gate Solenoide - FD	1
16	G020 4424	Junction Gate - FU	1
17	G020 5402	Harness - Paper Exit	1
18	G020 4436	Pulley - 28Z	1
19	G020 4437	Timing Belt - B60S2M-386	1
20	G020 4435	Pulley - 32Z	1
21	G020 4444	Tightener	1
22	G020 4333	Tightener - 1 Bin Sorter	1
23	G020 4440	Tension Spring	1
24	G020 4447	Pulley - 44Z	1
25	G020 4332	Rear Stud - 1 Bin Sorter	1
26	G020 4409	Guide Plate - Feed Down	1
27	A049 3371	Magnet	2
28	G020 4429	Exit Sensor	2
29	AW02 0075	Photointerrupter	1
30	G020 4481	Grounding Plate - Exit Roller	1
31	G020 4483	Antistatic Brush - FD	2
32	G020 4482	Middle Antistatic Br[illegible]- FD	1
33	G020 4390	Exit Roller	2
34	G020 4471	Rear Spring Plate - Driven Roller	1
35	G020 4470	Front Spring Plate - Driven Roller	1

Index No.	Part No.	Description	Q'ty Per Assembly
36	G020 4467	Tension Spring	1
37	G020 4431	Pressure Spring	2
38	AF04 0031	Upper Exit Roller	2
101	0450 3008B	Tapping Screw - M3x8	
102	0957 3008B	Philips Screw	
103	0720 0040E	Retaining Ring - M4	
104	0451 3006B	Tapping Screw - M3x6	

18. Drive Section 1 (A193)

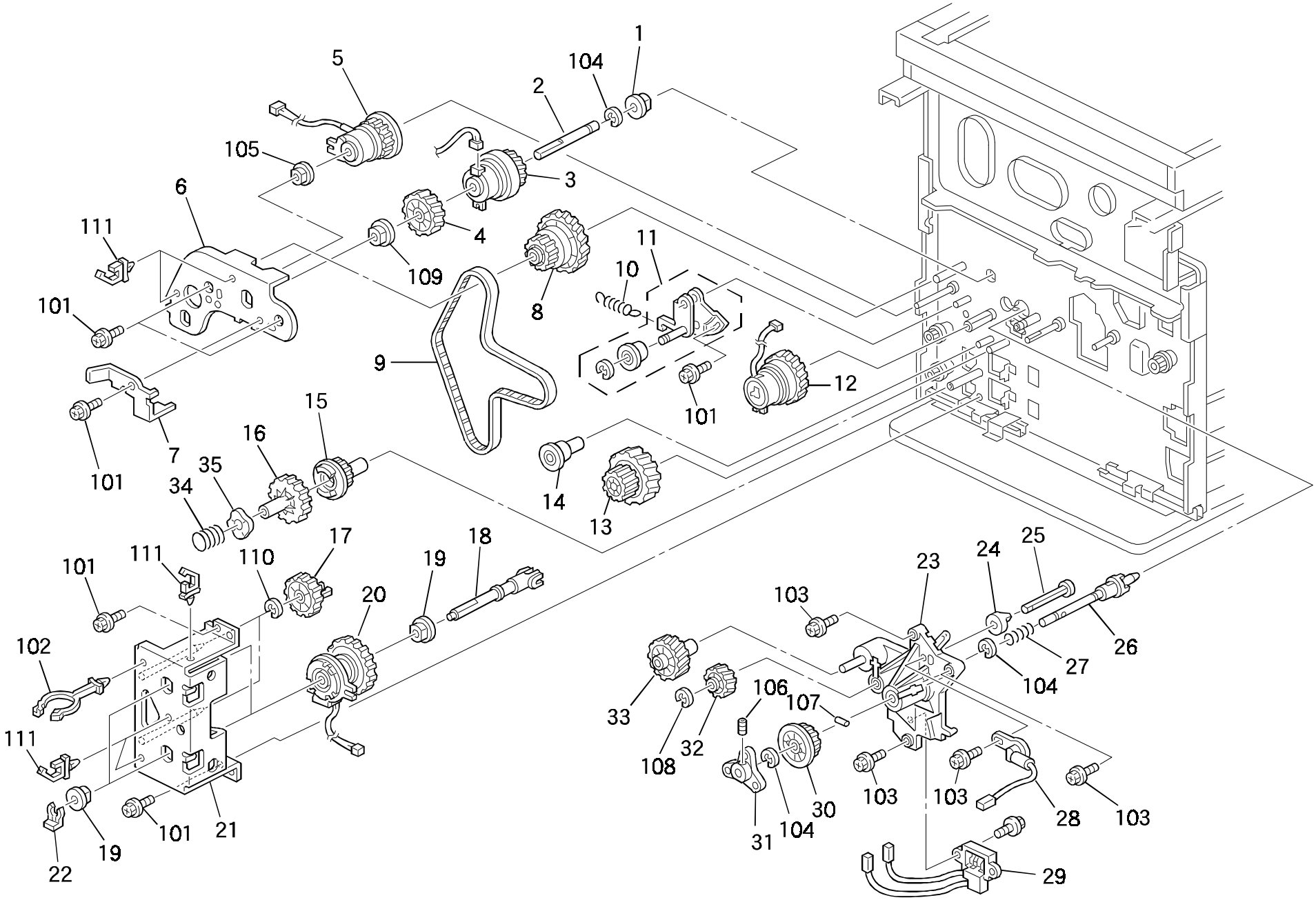


18. Drive Section 1 (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 1189	Fly Wheel	2
2	G020 1187	Timing Belt - S2M 158 mm	1
3	A193 5865	Stand - IOB	1
4	G020 5434	Harness - Main Motor	1
5	G020 1125	Main Motor Ass'y - DC 24W	1
6	G020 1117	Charge Roller Contact Clutch	1
7	AA08 2070	Bushing - 8x16x7	1
8	G020 1196	Tighener - PCU Ass'y	1
9	G020 5839	Release Wire - Fusing Drive	1
10	G020 4438	Timing Belt - B60S2M-292	1
11	G020 4488	Pulley/Gear - 45Z/20Z	1
12	G020 1158	Support Bracket - Fusing Drive	1
13	G020 1153	Gear - 40Z	1
14	G020 1157	Gear - 28Z	1
15	G020 1167	Gear - 35Z	1
16	G020 4441	Idle Gear - 27Z	1
17	G020 1150	Fusing Drive Bracket	1
18	G020 4442	Idle Gear - 27Z	1
19	G020 4484	Tightener	1
20	G020 4330	Tightener Bracket	1
21	G020 4449	Spring - Tighlener	1
22	G020 1084	Tension Spring	1
23	AW02 0075	Photointerrupter	1
24	G020 2143	Actuator - Charge Roller Clutch	1
25	G020 2141	Bracket - Charge Roller Contact SN	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	
102	0720 0040E	Retaining Ring - M4	
103	0451 3014B	Tapping Screw - M3x14	
104	1105 0460	Clamp	
105	0805 0088	Retaining Ring - M6	

19. Drive Section 2 (A193)

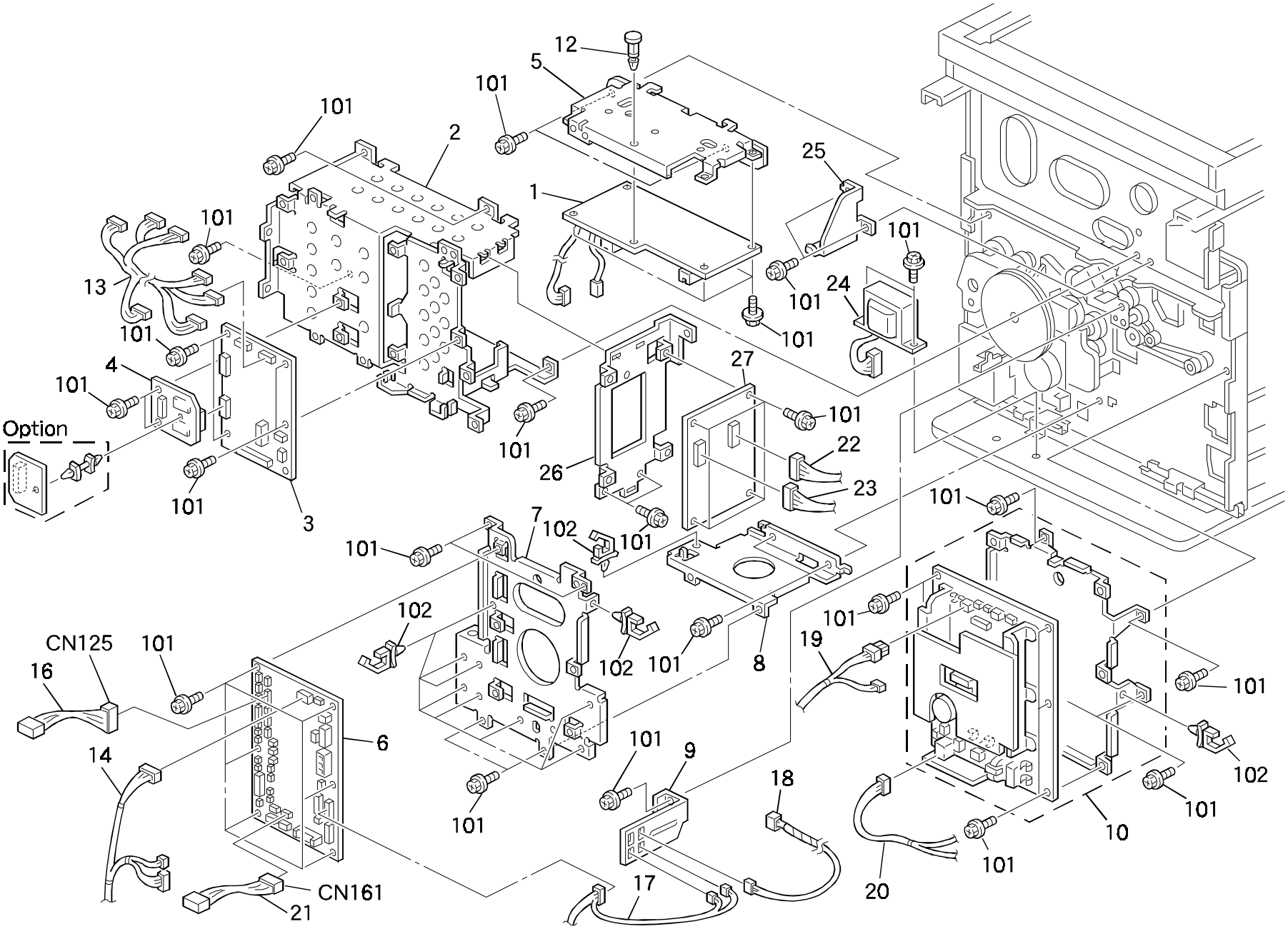


19. Drive Section 2 (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	AA08 2070	Bushing - 8x16x7	1
2	G020 1162	Development Clutch Shaft	1
3	G020 1116	Development Clutch	1
4	G020 1163	Gear - 43Z	1
5	G020 1114	By-pass Feed Clutch	1
6	G020 1165	Development Drive Bracket	1
7	G020 1166	Stopper Bracket - Development Clutch	1
8	G020 1147	Pulley - 65Z/26T	1
9	G020 1149	Timing Belt - S3M 588 mm	1
10	G020 1086	Spring - Tightener	1
11	G020 1190	Tightener Bracket Ass'y	1
12	G020 1115	Registration Clutch	1
13	G020 1168	Gear - 52Z/26T	1
14	G020 1146	Belt Tightener	1
15	G020 1148	Pulley - 30T	1
16	G020 1169	Gear - 40Z	1
17	G020 1144	Gear - 27Z	2
18	G020 1145	Shaft - Paper Feed Roller	2
19	G020 1119	Bushing - M8	4
20	G020 1112	Paper Feed Clutch	2
21	G020 1141	Bracket - Paper Feed Clutch	1
22	H521 3355	C Ring - Paper Feed Roller	1
23	G020 1171	Bracket - PCU Drive	1
24	G020 1186	Joint Bracket - Development Drive	1
25	G020 1185	Development Drive Shaft	1
26	G020 1180	PCU Drive Shaft	1
27	G020 1183	Pressure Spring	1
28	G020 2110	Terminal - Charge Roller	1
29	G020 3890	T/S Corona Recepacle	1
30	G020 1187	Timing Belt - S2M 15 mm	1
31	G020 1184	Bracket - Fly Wheel	1
32	G020 1177	Gear - 26Z	1
33	G020 1164	Gear - 37Z	1
34	G020 2682	Spring - 2.4N	1
35	5353 1803	Wabe Washer	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	
102	1105 0458	Clamp - LHL-18	
103	0451 3014B	Tapping Screw - M3X14	
104	0720 0060E	Retaining Ring - M6	
105	0805 3385	Bushing - 6 mm	
106	0574 0050E	Hexagon Headless Set Screw - M4x5	
107	0633 0120E	Spring Pin - M3x12	
108	0720 0040E	Retaining Ring - M4	

20. Electrical Section 1 (A193)

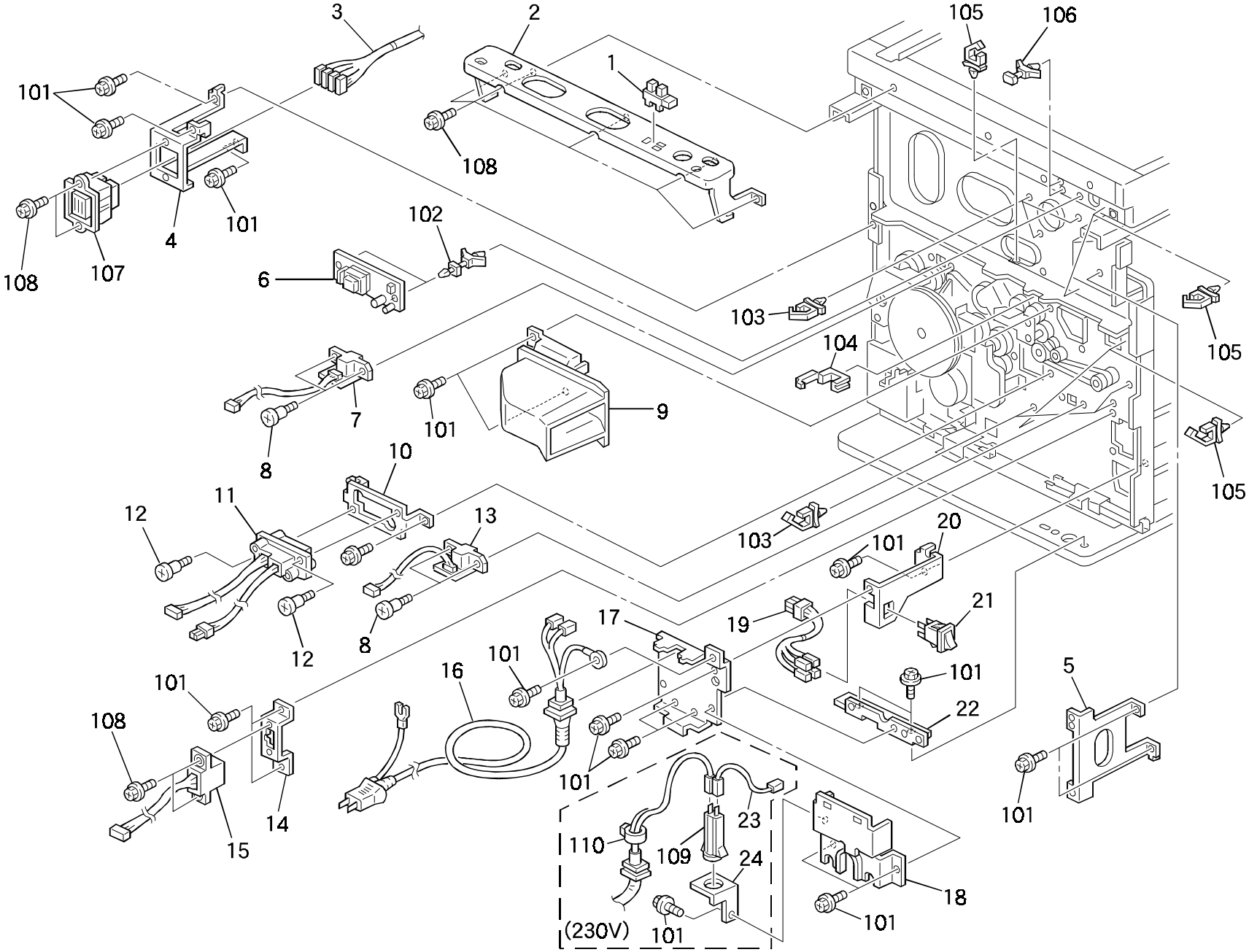


20. Electrical Section 1 (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 5739	Power Pack - BCTD	1
2	A193 5803	Bracket - BICU Board	1
3	A193 5091	BICU Board (115V)	1
3	A193 5092	BICU Board (230V)	1
4	A193 5122	MSU - 4MB	1
5	G020 5870	Bracket - Power Pack	1
6	A193 5105	IOC Board	1
7	A193 5863	IOB - Bracket	1
8	A193 5864	IOB Support Bracket	1
9	A193 5820	Bracket - Harness Guide	1
10	A193 5800	DC Power Supply Board (115V)	1
10	A193 5061	DC Power Supply Board (230V)	1
11	A193 5730	Atabilizer - Xenon Lamp	1
12	G020 5871	Spacer - KGLS-12RF	1
13	A193 5414	Harness - Scanner Unit	1
14	A193 5419	Relay Harness - Scanner Unit	1
15	A193 5405	Relay Harness - Key Counter	1
16	G020 5404	Harness - PCU Detector	1
17	G020 5412	Harness - Fan Motor	1
18	A193 5474	Harness - Key Cou	1
19	A193 5452	Harness - Power Su y Board	1
20	A193 5459	Harness - Fusing La	1
21	G020 5494	Invertor Relay Harne	1
22	A193 5451	DC Harness - Mother Board	1
23	A193 5490	Harness - Mother Board	1
24	AZ02 0010	Choke Coil - 10MH-2A	1
25	A193 1072	Harness Clamp Bracket	1
26	A193 5806	Bracket - Mother Board	1
27	A193 5128	Mother Board	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	

21. Electrical Section 2 (A193)

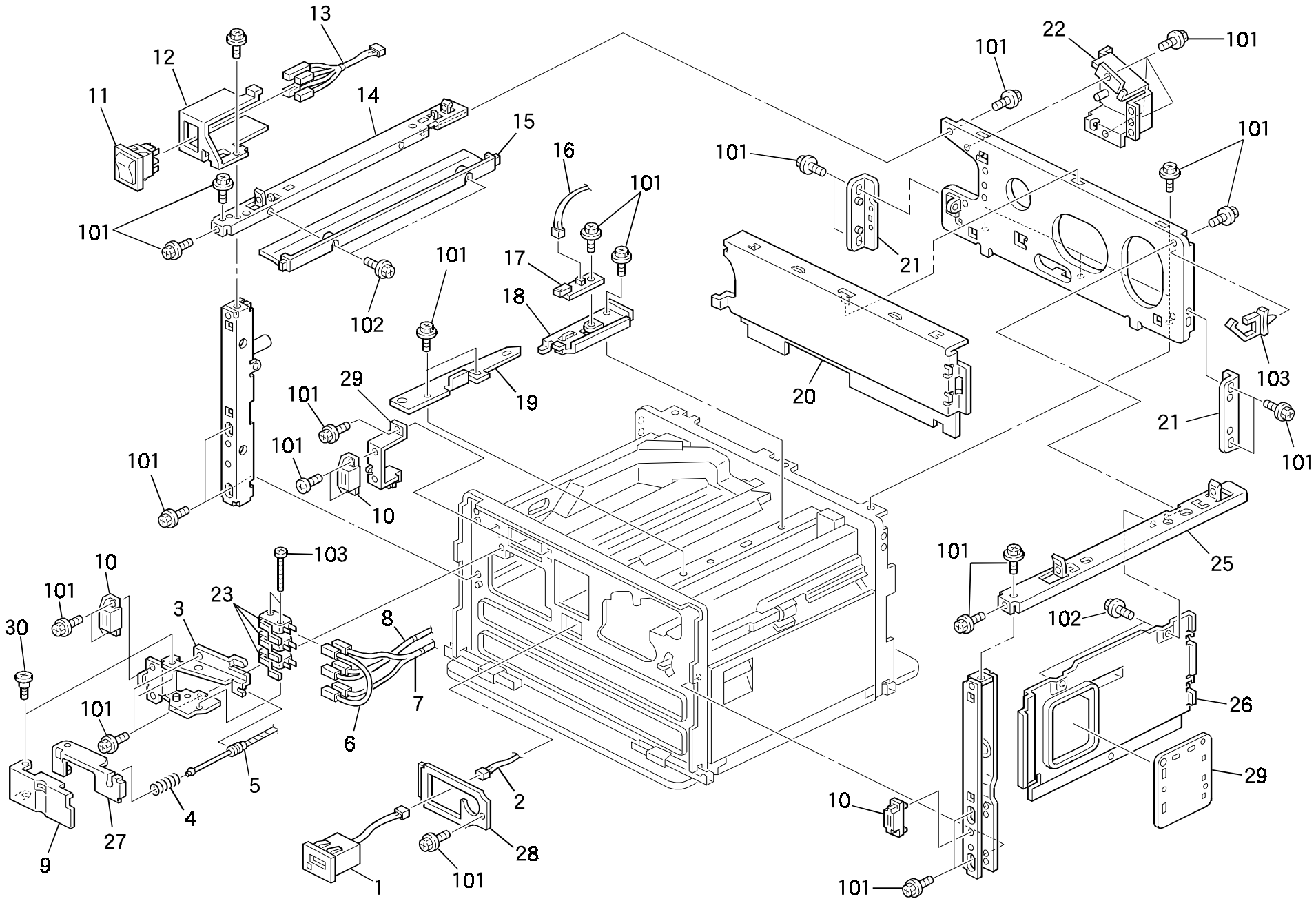


21. Electrical Section 2 (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	AW02 0075	Photointerrupter	1
2	A193 1786	Platen Cover Bracket	1
3	A193 5496	DF Relay Harness	1
4	A193 5808	ADF Connector - Bracket	1
5	A193 1364	Stand Cover	1
6	A193 5730	Atabilizer - Xenon Lamp	1
7	G020 5115	PCU Relay Board	1
8	G020 5829	Shoulder Screw - M3	4
9	A193 1101	Rear Duct	1
10	G020 5818	Bracket - Drawer Connector	1
11	A193 5211	Harness - Fusing Unit (115V)	1
11	A193 5214	Harness - Fusing Unit (230V)	1
12	AA14 3301	Stepped Screw - M3x4	1
13	G020 5116	Inverter Unit Connector	1
14	G020 5816	Bracket - Duplex Harness	1
15	G020 5497	Harness - Duplex Unit	1
16	A193 5711	Power Supply Cord (115V)	1
16	A193 5712	Power Supply Cord (230V)	1
17	A193 5858	Bracket - Power Supply Cord	1
18	A193 5861	Cover - Power Supply Cord	1
19	A193 5457	Harness - Main Switch	1
20	A193 5862	Stand - Power Supply Cord	1
21	G020 5616	Main Switch	1
22	G020 5862	Support Bracket - Base	1
23	A193 5215	Circuit Breaker Harness (230V)	1
24	A193 5817	Bracket - Circuit Breaker (230V)	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	
102	1105 0195	PCB Stud	
103	1105 0291	Wire Saddle	
104	1105 0334	Edge - 17	
105	1105 0310	Wire Clamp	
106	1105 0415	Spacer - 12.7 mm	
107	1102 7445	Connector - 46P	
108	0451 3008B	Tapping Screw - M3x8	
109	1107 0472	Circuit Breaker - 250V/8A	
110	1607 0638	Ferrite Core - TFC25-15-12	

22. Frame Section 1 (A193)

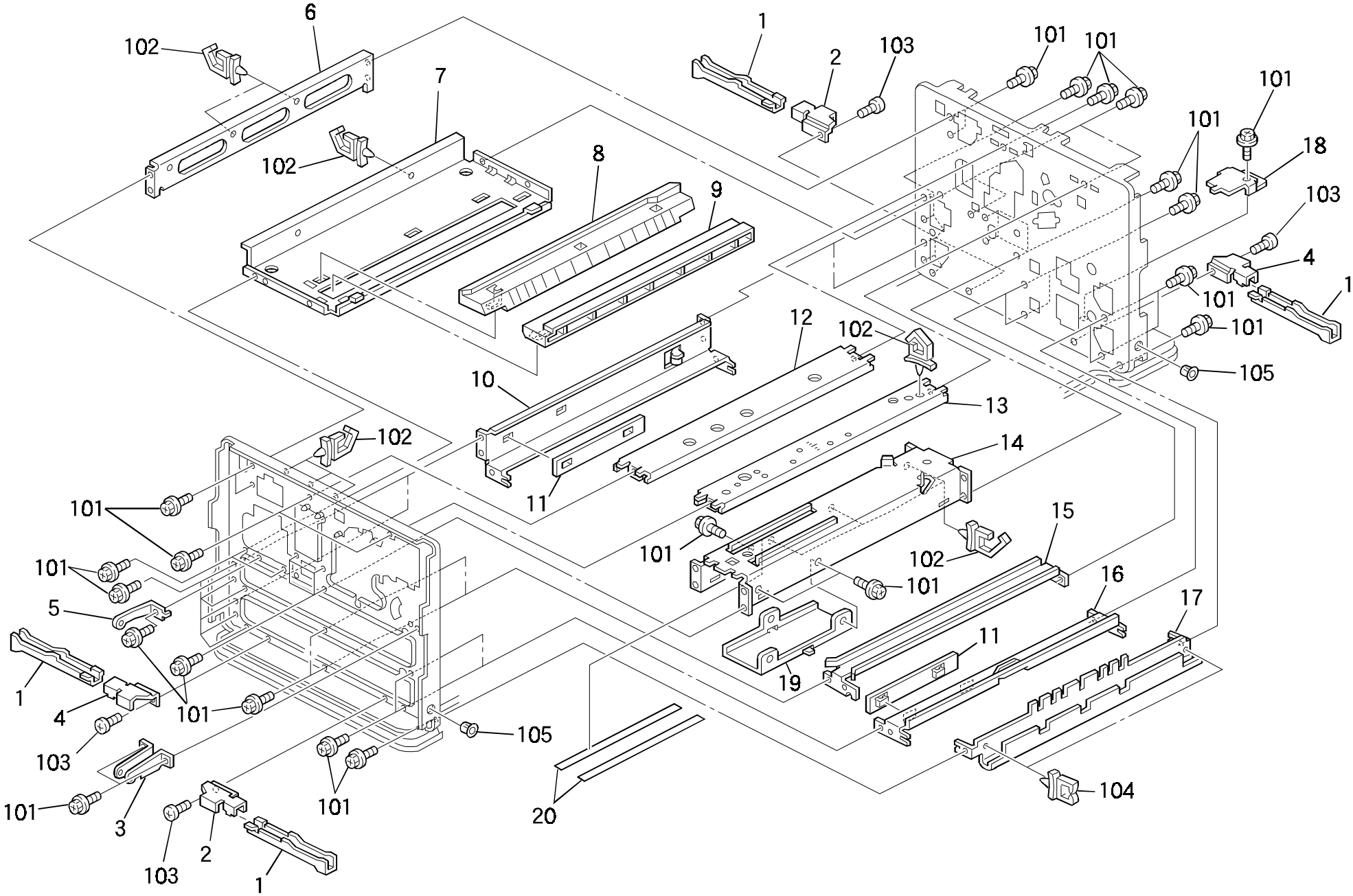


22. Frame Section 1 (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	AX31 0022	Total Counter	1
2	G020 5477	Relay Harness - Total Counter	1
3	G020 5810	Bracket - Door Switch	1
4	G020 5835	Tension Spring	1
5	G020 1159	Release Wire - Fusing Drive	1
6	G020 5486	Harness - Front Door SW	1
7	A193 5411	Harness Safety Switch - 5V	1
8	A193 5410	Harness Safety Switch - 24V	1
9	G020 5811	Safety Switch Actuator	1
10	AG07 0004	Magnetic Catch	3
11	1204 2446	Main Switch	1
12	A193 5809	Bracket - Operation Switch	1
13	A193 5456	Harness - Operation Switch	1
14	A193 1079	Left Lower Stay - Scanner Unit	1
15	A193 1321	Left Exit Cover	1
16	G020 5415	Harness - Humidity Sensor	1
17	G020 5625	Humidity Sensor	1
18	G020 2135	Bracket - Humidity Sensor	1
19	G020 1054	Positioning Plate	1
20	A193 1326	Rear Exit Cover	1
21	A193 1068	Rear Fixed Plate	1
22	A193 1083	Bracket - Sorter	1
23	G020 5812	Microswitch	1
24	A193 1382	Window Cover	1
25	A193 1077	Right Lower Stay - Scanner Unit	1
26	A193 1331	Right Exit Cover	1
27	G020 5815	Actuator - Release Gear	1
28	A193 5813	Bracket - Total Counter	1
29	G020 5813	Bracket - Magnet	1
30	G020 5829	Shoulder Screw - M3	1
31	G020 5486	Harness - Front Door SW	1

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	
102	0802 5255	Tapping Screw - M3	
103	0313 0400B	Tapping Screw - M3x40	

23. Frame Section 2 (A193)



23. Frame Section 2 (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A193 1070	Grip Plate	4
2	A134 1072	Right Bracket - Grip Plate	2
3	G020 1330	Right Hinge Bracket - Front Door	1
4	G020 1085	Bracket - Grip Plate	2
5	G020 1331	Left Hinge Bracket - Front Door	1
6	G020 1074	Harness Stay	1
7	G020 1073	Lower Left Plate	1
8	G020 1090	Left Relay Guide	1
9	G020 1087	Right Relay Guide	1
10	G020 2651	Left Guide - Paper Tray	1
11	G020 2678	Guide Plate - Paper Tray	1
12	G020 1071	Left Stay - Laser Unit	1
13	G020 1070	Right Stay - Laser Unit	1
14	G020 1072	Fusing Unit Guide	1
15	G020 2652	Stay - Paper Tray	1
16	G020 2650	Right Guide - Paper Tray	1
17	G020 2631	Stay - Vertical Transport	1
18	G020 1053	Guard Bracket	1
19	A193 1074	Relay Harness Cover	1
20	A193 1075	Sheet - Fusing Rail	2

Index No.	Part No.	Description	Q'ty Per Assembly
101	0451 3006B	Tapping Screw - M3x6	
102	1105 0291	Wire Saddle	
103	0434 0060B	Philips Tapping Screw - M4x6	

24. BICU Board (A193)

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AR

SYMBOL NO.	INDEX NO.
AR3	146
AR4	146
AR5	146
AR6	146
AR7	146
AR8	148
AR9	148
AR10	148
AR11	148
AR12	146

SYMBOL NO.	INDEX NO.
AR13	146
AR14	146
AR15	146
AR16	146
AR17	146
AR18	146
AR19	147
AR20	146
AR21	148
AR22	146

SYMBOL NO.	INDEX NO.
AR22	146
AR23	146
AR24	146
AR25	146
AR26	148
AR27	148
AR28	149

CAPACITOR

SYMBOL NO.	INDEX NO.
C1	187
C2	194
C3	195
C4	195
C5	185
C6	186
C7	186
C8	195
C9	150
C10	195

SYMBOL NO.	INDEX NO.
C11	195
C12	-----
C13	192
C14	192
C15	195
C16	151
C17	195
C18	192
C19	-----
C20	195

SYMBOL NO.	INDEX NO.
C21	188
C22	195
C23	195
C24	195
C25	192
C26	195
C27	192
C28	195
C29	151
C30	195

SYMBOL NO.	INDEX NO.
C31	191
C32	189
C33	195
C34	192
C35	195
C36	195
C37	184
C38	-----
C39	195
C40	195

CAPACITOR

SYMBOL NO.	INDEX NO.
C41	192
C42	195
C43	195
C44	195
C45	195
C46	195
C47	195
C48	195
C49	190
C50	195

SYMBOL NO.	INDEX NO.
C51	195
C52	193
C53	193
C54	193
C55	193
C56	195
C57	193
C58	195
C59	195
C60	195

SYMBOL NO.	INDEX NO.
C61	195
C62	193
C63	193
C64	193
C65	193
C66	193
C67	193
C68	195
C69	195
C70	192

SYMBOL NO.	INDEX NO.
C71	195
C72	195
C73	195
C74	192
C75	195
C76	195
C77	195
C78	195
C79	195
C80	195

SYMBOL NO.	INDEX NO.
C81	192
C82	192
C83	192
C84	192
C85	192
C86	193
C87	193
C88	190
C89	190
C90	189

SYMBOL NO.	INDEX NO.
C91	189
C92	192
C93	192
C94	192
C95	192
C96	192
C97	191
C98	191
C99	191
C100	191

SYMBOL NO.	INDEX NO.
C101	191
C102	191
C103	191
C104	191
C105	191
C106	192
C107	192
C108	192
C109	192

CONNECTOR

SYMBOL NO.	INDEX NO.
CN301	110
CN302	105
CN303	106
CN304	110
CN305	103
CN306	107
CN307	102
CN308	104
CN309	101
CN310	109
CN311	108

DA

SYMBOL NO.	INDEX NO.
DA1	119
DA2	119
DA3	119
DA4	119
DA5	119
DA6	119
DA7	119
DA8	119

DIODE

SYMBOL NO.	INDEX NO.
D1	118
D2	118
D3	120

FILTER

SYMBOL NO.	INDEX NO.
FIL1	152
FIL2	152
FIL3	152
FIL4	152
FIL5	155
FIL6	152
FIL7	152
FIL8	152
FIL9	152
FIL10	153
FIL11	180

IC

SYMBOL NO.	INDEX NO.
IC2	132
IC4	137
IC5	2
IC6	1
IC7	136
IC8	135
IC9	139
IC10	3
IC11	141
IC12	124

SYMBOL NO.	INDEX NO.
IC13	124
IC14	134
IC15	140
IC16	134
IC17	142
IC18	127
IC19	125
IC20	128
IC21	126
IC22	126

SYMBOL NO.	INDEX NO.
IC23	126
IC24	124
IC26	129
IC27	4
IC28	130
IC29	127
IC30	127
IC31	127
IC99	138
[SOCKET]	111

JP

SYMBOL NO.	INDEX NO.
JP1	183
JP2	183
JP3	183
JP4	183

L

SYMBOL NO.	INDEX NO.
L1	154

LED

SYMBOL NO.	INDEX NO.
LED1	123
LED2	122

Q

SYMBOL NO.	INDEX NO.
Q1	114
Q2	116
Q3	114
Q4	113
Q5	115
Q6	114
Q7	117
Q8	114

RESISTOR

SYMBOL NO.	INDEX NO.
R1	163
R2	-----
R3	167
R4	173
R5	173
R6	-----
R7	173
R8	173
R9	173
R10	173

SYMBOL NO.	INDEX NO.
R11	165
R12	165
R13	156
R14	167
R15	167
R16	156
R17	165
R18	165
R19	163
R20	165

SYMBOL NO.	INDEX NO.
R21	165
R22	165
R23	165
R24	169
R25	-----
R26	162
R27	162
R28	162
R29	162
R30	162

SYMBOL NO.	INDEX NO.
R31	162
R32	162
R33	162
R34	162
R35	162
R36	160
R37	157
R38	158
R39	161
R40	158

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RESISTOR

SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.
R41	161	R51	161	R61	167	R71	167	R81	167	R91	167	R101	174
R42	158	R52	158	R62	174	R72	183	R82	167	R92	167	R102	174
R43	161	R53	161	R63	174	R73	173	R83	174	R93	173	R103	174
R44	158	R54	158	R64	174	R74	173	R84	174	R94	173	R104	167
R45	161	R55	161	R65	174	R75	173	R85	174	R95	173	R105	167
R46	158	R56	174	R66	167	R76	173	R86	-----	R96	173	R106	167
R47	161	R57	167	R67	173	R77	173	R87	174	R97	173	R107	167
R48	158	R58	-----	R68	167	R78	173	R88	174	R98	173	R108	167
R49	161	R59	167	R69	167	R79	173	R89	174	R99	174	R109	174
R50	158	R60	167	R70	167	R80	167	R90	167	R100	174	R110	174

RESISTOR

SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.
R111	174	R121	167	R131	167	R141	173	R151	173	R161	174	R171	177
R112	174	R122	173	R132	181	R142	156	R152	167	R162	167	R172	174
R113	173	R123	167	R133	182	R143	164	R153	174	R163	-----	R173	178
R114	174	R124	167	R134	170	R144	167	R154	167	R164	-----	R174	168
R115	174	R125	167	R135	166	R145	-----	R155	174	R165	166	R175	173
R116	174	R126	167	R136	-----	R146	167	R156	167	R166	173	R176	167
R117	174	R127	173	R137	167	R147	-----	R157	174	R167	173	R177	167
R118	167	R128	183	R138	165	R148	173	R158	167	R168	156	R178	166
R119	167	R129	167	R139	169	R149	173	R159	174	R169	165	R179	-----
R120	167	R130	-----	R140	173	R150	173	R160	167	R170	165	R180	-----

RESISTOR

SYMBOL NO.	INDEX NO.
R181	173
R182	177
R183	166
R184	176
R185	166
R186	170
R187	175
R188	171
R189	177
R190	166

SYMBOL NO.	INDEX NO.
R191	171
R192	174
R193	174
R194	175
R195	171
R196	173
R197	173
R198	167
R199	172
R200	173

SYMBOL NO.	INDEX NO.
R201	-----
R202	-----
R203	177
R204	174
R205	174
R206	174
R207	158
R208	158
R209	158
R210	158

SYMBOL NO.	INDEX NO.
R211	158
R212	158
R213	158
R214	158
R215	158
R216	159
R217	158
R218	159
R219	158
R220	177

SYMBOL NO.	INDEX NO.
R221	156
R222	157
R223	166
R224	167
R225	167
R226	177
R227	156
R228	156
R229	156
R230	177

SYMBOL NO.	INDEX NO.
R231	177
R232	177
R233	167
R234	179
R235	179
R236	179
R237	179
R238	179
R239	179
R240	179

SYMBOL NO.	INDEX NO.
R241	179
R242	179
R243	179
R244	179
R245	179
R246	179
R247	179
R248	177
R249	165
R250	173

RESISTOR

SYMBOL NO.	INDEX NO.
R251	166
R252	166
R253	166
R254	177
R255	177
R256	177
R257	177
R258	179
R259	179
R260	167

SYMBOL NO.	INDEX NO.
R261	167
R262	179
R263	165
R264	165
R265	173
R266	173
R267	173
R268	177

REG

SYMBOL NO.	INDEX NO.
REG1	143

SW

SYMBOL NO.	INDEX NO.
SW1	112

XTL

SYMBOL NO.	INDEX NO.
XTL1	144
XTL2	145

ZD

SYMBOL NO.	INDEX NO.
ZD1	121

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AR

SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.
AR1	197	AR11	146	AR21	148	AR31	199	AR41	146	AR51	146
AR2	197	AR12	149	AR22	148	AR32	201	AR42	201	AR52	146
AR3	197	AR13	197	AR23	146	AR33	201	AR43	199	AR53	146
AR4	197	AR14	197	AR24	146	AR34	199	AR44	148	AR54	146
AR5	201	AR15	197	AR25	146	AR35	199	AR45	148	AR55	146
AR6	197	AR16	197	AR26	200	AR36	146	AR46	148	AR56	148
AR7	199	AR17	146	AR27	198	AR37	146	AR47	148	AR57	146
AR8	146	AR18	146	AR28	200	AR38	146	AR48	147		
AR9	146	AR19	146	AR29	198	AR39	146	AR49	146		
AR10	146	AR20	146	AR30	201	AR40	146	AR50	146		

CAPACITOR

SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.
C1	187	C11	192	C21	184	C31	193	C41	191	C51	191
C2	194	C12	195	C22	195	C32	193	C42	191	C52	191
C3	195	C13	195	C23	192	C33	193	C43	191	C53	191
C4	180	C14	189	C24	195	C34	191	C44	191	C54	193
C5	180	C15	191	C25	195	C35	191	C45	191	C55	190
C6	193	C16	192	C26	195	C36	191	C46	191	C56	193
C7	195	C17	195	C27	193	C37	191	C47	191	C57	193
C8	195	C18	195	C28	195	C38	191	C48	191	C58	190
C9	195	C19	195	C29	151	C39	191	C49	191	C59	193
C10	195	C20	195	C30	193	C40	191	C50	191	C60	195

CAPACITOR

SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.
C61	192	C71	192	C81	192	C91	192	C101	192	C111	192
C62	193	C72	195	C82	195	C92	195	C102	195	C112	195
C63	193	C73	195	C83	195	C93	195	C103	195	C113	195
C64	193	C74	192	C84	195	C94	195	C104	195	C114	195
C65	193	C75	195	C85	195	C95	195	C105	195	C115	195
C66	188	C76	192	C86	195	C96	195	C106	195	C116	195
C67	193	C77	195	C87	195	C97	195	C107	195	C117	195
C68	195	C78	151	C88	195	C98	195	C108	195	C118	195
C69	195	C79	195	C89	195	C99	195	C109	195	C119	195
C70	195	C80	195	C90	195	C100	195	C110	195	C120	195

CAPACITOR

SYMBOL NO.	INDEX NO.
C81	195
C82	195
C83	195
C84	195
C85	195
C86	195
C87	195
C88	193
C89	193
C90	193

SYMBOL NO.	INDEX NO.
C91	195
C92	195
C93	195
C94	195
C95	195
C96	192
C97	195
C98	195
C99	195
C100	190

SYMBOL NO.	INDEX NO.
C101	195
C102	192
C103	192
C104	195
C105	195
C106	189
C107	190
C108	195
C109	192
C110	192

SYMBOL NO.	INDEX NO.
C111	193
C112	193
C113	192
C114	195
C115	195
C116	193
C117	193
C118	193
C119	193
C120	150

SYMBOL NO.	INDEX NO.
C121	195
C122	195
C123	192
C124	193
C125	193
C126	192
C127	193
C128	193
C129	193
C130	193

SYMBOL NO.	INDEX NO.
C131	193
C132	193
C133	193
C134	189
C135	193
C136	193
C137	185
C138	195
C139	193
C140	193

SYMBOL NO.	INDEX NO.
C141	195
C142	195

CONNECTOR

SYMBOL NO.	INDEX NO.
CN301	110
CN302	105
CN303	106
CN304	110
CN305	103
CN306	107
CN307	102
CN308	104
CN309	101
CN310	109
CN311	108

DA

SYMBOL NO.	INDEX NO.
DA1	119
DA2	119
DA3	119
DA4	119
DA5	119
DA6	119
DA7	119
DA8	119

DIODE

SYMBOL NO.	INDEX NO.
D1	118
D2	118
D3	118

FILTER

SYMBOL NO.	INDEX NO.
FIL1	202
FIL2	202
FIL3	202
FIL4	202
FIL5	202
FIL6	204
FIL7	156
FIL8	156
FIL9	156
FIL10	156

SYMBOL NO.	INDEX NO.
FIL11	156
FIL12	202
FIL13	156
FIL14	156
FIL15	156
FIL16	156
FIL17	156
FIL18	156
FIL19	156
FIL20	156

SYMBOL NO.	INDEX NO.
FIL21	203
FIL22	203
FIL23	156
FIL24	202
FIL25	202
FIL26	202
FIL27	202
FIL28	202
FIL29	157

IC

SYMBOL NO.	INDEX NO.
IC2	132
IC3	128
[SOCKET]	111
IC4	129
IC5	136
IC6	2
IC7	135
IC8	1
IC9	133
IC10	136

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IC

SYMBOL NO.	INDEX NO.
IC11	4
IC12	139
IC13	3
IC14	141
IC15	124
IC16	124
IC17	135
IC18	140
IC19	130
IC20	127

SYMBOL NO.	INDEX NO.
IC21	127
IC22	142
IC23	127
IC24	127
IC25	196
IC26	126
IC27	126
IC28	126
IC29	196

JP

SYMBOL NO.	INDEX NO.
JP3	180
JP4	180
JP5	180

LED

SYMBOL NO.	INDEX NO.
LED1	123
LED2	122

Q

SYMBOL NO.	INDEX NO.
Q1	114
Q2	114
Q3	116
Q4	113
Q5	117
Q6	114
Q7	115
Q8	114

REG

SYMBOL NO.	INDEX NO.
REG1	143

RESISTOR

SYMBOL NO.	INDEX NO.
R1	179
R2	167
R3	167
R4	173
R5	179
R6	179
R7	179
R8	179
R9	173
R10	177

RESISTOR

SYMBOL NO.	INDEX NO.
R11	171
R12	166
R13	177
R14	171
R15	174
R16	167
R17	165
R18	169
R19	165
R20	165

SYMBOL NO.	INDEX NO.
R21	163
R22	173
R23	167
R24	164
R25	167
R26	173
R27	156
R28	173
R29	205
R30	156

SYMBOL NO.	INDEX NO.
R31	167
R32	167
R33	174
R34	174
R35	167
R36	167
R37	170
R38	-----
R39	167
R40	166

SYMBOL NO.	INDEX NO.
R41	169
R42	167
R43	167
R44	167
R45	173
R46	174
R47	174
R48	174
R49	167
R50	167

SYMBOL NO.	INDEX NO.
R51	167
R52	173
R53	173
R54	174
R55	174
R56	174
R57	174
R58	173
R59	167
R60	167

SYMBOL NO.	INDEX NO.
R61	167
R62	167
R63	167
R64	181
R65	182
R66	170
R67	166
R68	166
R69	165
R70	165

SYMBOL NO.	INDEX NO.
R71	167
R72	177
R73	173
R74	167
R75	167
R76	173
R77	173
R78	173
R79	173
R80	167

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RESISTOR

SYMBOL NO.	INDEX NO.
R81	166
R82	166
R83	166
R84	165
R85	165
R86	173
R87	173
R88	177
R89	177
R90	177

SYMBOL NO.	INDEX NO.
R91	177
R92	165
R93	165
R94	177
R95	177
R96	177
R97	177
R98	168
R99	178
R100	174

SYMBOL NO.	INDEX NO.
R101	173
R102	167
R103	167
R104	166
R105	173
R106	173
R107	173
R108	165
R109	166
R110	177

SYMBOL NO.	INDEX NO.
R111	173
R112	176
R113	166
R114	179
R115	173
R116	177
R117	173
R118	174
R119	167
R120	177

SYMBOL NO.	INDEX NO.
R121	177
R122	175
R123	167
R124	167
R125	167
R126	179
R127	179
R128	179
R129	179
R130	171

SYMBOL NO.	INDEX NO.
R131	173
R132	173
R133	172
R134	167
R135	174
R136	174
R137	174
R138	174
R139	158
R140	158

SYMBOL NO.	INDEX NO.
R141	158
R142	158
R143	158
R144	158
R145	158
R146	158
R147	158
R148	159
R149	158
R150	159

RESISTOR

SYMBOL NO.	INDEX NO.
R151	158
R152	179
R153	177
R154	163
R200	206
R201	206
R202	206

SW

SYMBOL NO.	INDEX NO.
SW1	112

XTL

SYMBOL NO.	INDEX NO.
XTL1	144
XTL2	145

ZD

SYMBOL NO.	INDEX NO.
ZD1	121

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Index No.	Part No.	Description	Q'ty Per Assembly
*	A193 5120	BICU Board (115V)	1
*	A193 5134	BICU Board (230V)	1
1	A193 5510	IC - BU6206KV	1
2	A193 5520	IC - GAPD	1
3	A193 5550	IC - ADIPU M66359FP	1
4	G018 5914	IC - FCI 1.6	1
101	1102 7324	Connector Header -	
102	1102 7383	Connector FC-102H	
103	1102 7452	Connector DF11-22 - 2V	

Index No.	Part No.	Description	Q'ty Per Assembly
104	1102 7453	Connector FX2-80S-1.27SVL	
105	1102 7454	Connector FX6-60P-0.8SV2	
106	1102 7455	Connector FX6-60S-0.8SV2	
107	1102 7456	Connector 176125-5	
108	1102 7463	Connector KX14-70K8D1	
109	1102 7465	Connector IL-FHR-20S-HF	
110	1102 7466	Connector IL-FHR-50S-HF	
111	1104 0759	IC Socket 28P 2-382409-3	
112	1204 2373	Key Board Switch - SKQDPA	
113	1400 0390	TR 2SA1122D	
114	1400 0392	Transistor - DTC114EK	
115	1400 0398	Transistor - 2SC2412K	
116	1400 0702	Transistor - DTD143EK	
117	1400 0703	Transistor - 2SA1313	
118	1402 0477	Silicon Diode - 1SS187	
119	1402 0478	Diode - 1SS226TE85L	
120	1402 0804	Silicon Diode - 45V - 0.3A	
121	1402 1111	Diode - HZM5.1NB2	
122	1403 0828	Diode - SEC1901C	
123	1403 0829	Diode - SEC1201C	
124	1407 1600	TTLIC - SN74LS244NS	
125	1407 2143	TTLIC - 74F244SJ	
126	1407 2187	TTLIC - SN74LS07NS	
127	1407 2561	TTLIC 74F157ASJ	
128	1407 2948	IC - TC7S04F	
129	1407 3263	IC - TC7S08F	
130	1407 4179	CMOSIC TC7W04FU	
131	1407 4322	IC - TD74ABT374F	
132	1407 4336	PSRAM	
133	1407 4536	IC - ICS1574	
134	1407 4657	IC - RS5µF1050	
135	1407 4671	FIFO M66256FP	
136	1407 4683	MPU HD6413003TF-10	
137	1407 4685	EEPROM LH28F800SUT-70	
138	1407 4730	SRAM STK12C68-W45	

Index No.	Part No.	Description	Q'ty Per Assembly
139	1407 4734	IC - M66257FP	
140	1408 0575	IC - M51957BFP	
141	1408 0797	CMOSIC TC74HC03AF	
142	1408 1065	Comparator BA10339F	
143	1408 1226	Regurator 3.3V PQ3TZ53	
144	1503 0587	Oscillator CX-5F 19.6608MHZ	
145	1503 0704	Oscillator CSTCS16.00MX040	
146	1601 1413	Resistor - RCB8C330J	
147	1601 7751	Resistor - 4.7K Ω ±5%	
148	1601 7752	Resistor - 10K Ω ±5%	
149	1601 7797	Resistor Array - 100 Ω ±5%	
150	1604 4333	Capacitor - 100μF ±20% 10V	
151	1605 0577	Capacitor - 0.33μF +80-20%	
152	1607 0705	Noize Filter - ACF51832-470	
153	1607 0706	Noize Filter - ACF51832-220	
154	1607 0723	Noize Filter - N2012Z121	
155	1607 0803	Filter - ACF451832-680	
156	1607 0847	Data Line Filter - ACB1608H-300	
157	1607 0907	EMI Filter - ACB2012H-300	
158	1630 3102	Resistor - 1KΩ 1/10W ±5%	
159	1630 3103	Resistor - 10KΩ 1/10W ±5%	
160	1630 3150	Resistor - 15Ω ±5% 1/10W	
161	1630 3222	Resistor - 2.2K Ω 1/10W ±5%	
162	1630 3330	Resistor - 33 Ω ±5% 1/10W	
163	1630 3471	Resistor - 470Ω - 1/10W	
164	1630 4100	Resistor - 10 Ω ±5% 1/16W	
165	1630 4101	Resistor - 100 Ω ±5% 1/16W	
166	1630 4102	Resistor - 100 Ω ±5% 1/16W	
167	1630 4103	Resistor - 10KΩ ±5% 1/16W	
168	1630 4104	Resistor - 100 Ω ±5% 1/16W	
169	1630 4105	Resistor - 1.0MΩ ±5% 1/16W	
170	1630 4222	Resistor - 2.2K Ω ±5%	
171	1630 4223	Resistor - 22K Ω ±5% - 1/16W	
172	1630 4273	Resistor - 27K Ω ±5% - 1/16W	

Index No.	Part No.	Description	Q'ty Per Assembly
173	1630 4330	Resistor - 33 Ω ±5% 1/8W	
174	1630 4332	Resistor - 33K Ω ±5% 1/16W	
175	1630 4333	Resistor - 33K Ω: ±5% 1/16W	
176	1630 4471	Resistor - 470 Ω ±5% 1/16W	
177	1630 4472	Resistor - 4.7K Ω ±5% 1/16W	
178	1630 4510	Resistor - 51 Ω ±5% 1/16W	
179	1630 4680	Resistor - 68 Ω ±5% 1/16W	
180	1633 0000	Resistor - 0 Ω 1/10W - Jamper Chip	
181	1633 1002	Resistor - 10K Ω ±1% 1/10W	
182	1633 3921	Resistor - 3.92K Ω ±1% 1/10W	
183	1634 0000	Resistor - 0 Ω - 1/16W	
184	1644 0220	Capacitor - 22μF ±20% 10V	
185	1644 0470	Capacitor - 47μF ±20% 10V	
186	1644 2100	Capacitor - 10μF ±20% 25V	
187	1644 5100	Capacitor - 10μF ±20% 50V	
188	1644 6220	Capacitor - 22μF ±20% 6.3V	
189	1660 1100	Capacitor - 10PF 50V	
190	1660 3101	Capacitor - 100PF 50V	
191	1660 3150	Capacitor - 15PF 50V	
192	1660 3471	Capacitor - 470PF 50V	
193	1660 7103	Capacitor - 10000PF 50V	
194	1660 7104	Capacitor - 100000PF 50V	
195	1660 9104	Capacitor - 0.1μF 25V	
196	1407 4323	TTL TD74ABT244A	
197	1601 1930	Resistor - 100 Ω ±5% 1/10W	
198	1601 7792	Resistor - 1k Ω	
199	1601 7793	Resistor - 10k Ω	
200	1601 7796	Resistor Array - 2.2k Ω ±5%	
201	1601 7814	Resistor - 3.3k Ω ±5%	
202	1607 0732	Noize Filter - AEF321825-470	
203	1607 0926	Frilter - ACF321825-680	
204	1607 0927	Frilter - ACF321825-220	
205	1630 4150	Resistor - 15 Ω ±5% 1/16W	
206	1630 4301	Resistor - 300 Ω ±5% 1/10W	

25. IOCSS Board (A193)

CAPACITOR

SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.
C101	-----	C111	173	C121	168	C131	174	C141	173	C151	174	C161	173
C102	173	C112	172	C122	170	C132	173	C142	173	C152	174	C162	174
C103	173	C1\13	172	C123	168	C133	173	C143	173	C153	174	C163	173
C104	169	C114	173	C124	173	C134	173	C144	173	C154	173	C164	173
C105	173	C115	-----	C125	174	C135	173	C145	173	C155	174	C165	173
C106	173	C116	173	C126	-----	C136	173	C146	171	C156	173	C166	173
C107	174	C117	173	C127	168	C137	173	C147	173	C157	174	C167	-----
C108	-----	C118	171	C128	173	C138	173	C148	173	C158	-----	C168	174
C109	173	C119	149	C129	174	C139	173	C149	173	C159	173	C169	173
C110	173	C120	149	C130	171	C140	173	C150	173	C160	173	C170	173

CAPACITOR

SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.
C171	173	C181	173	C191	173	C201	173	C211	173	C221	173	C231	173
C172	173	C182	174	C192	173	C202	173	C212	172	C222	173	C232	173
C173	173	C183	174	C193	173	C203	173	C213	174	C223	173	C233	173
C174	173	C184	173	C194	173	C204	174	C214	173	C224	173	C234	172
C175	174	C185	174	C195	173	C205	174	C215	173	C225	173	C235	173
C176	174	C186	174	C196	173	C206	173	C216	173	C226	173	C236	173
C177	173	C187	173	C197	174	C207	173	C217	173	C227	173	C237	-----
C178	173	C188	174	C198	173	C208	173	C218	173	C228	173	C238	173
C179	173	C189	174	C199	173	C209	173	C219	173	C229	173	C239	-----
C180	173	C190	-----	C200	174	C210	173	C220	173	C230	173	C240	149

CAPACITOR

SYMBOL NO.	INDEX NO.
C241	173
C242	173
C243	173
C244	173
C245	173
C246	173
C247	173
C248	173
C249	173
C250	173

SYMBOL NO.	INDEX NO.
C251	173
C252	173
C253	173
C254	173
C255	173
C256	173
C257	173
C258	173
C259	173
C260	173
C263	173

CONNECTOR

SYMBOL NO.	INDEX NO.
CN101	129
CN102	125
CN103	114
CN104	104
CN105	127
CN106	123
CN107	111
CN108	103
CN109	112
CN110	111

SYMBOL NO.	INDEX NO.
CN111	103
CN112	121
CN113	128
CN116	115
CN117	117
CN118	103
CN119	124
CN120	122
CN121	109
CN122	116

SYMBOL NO.	INDEX NO.
CN123	118
CN124	110
CN125	106
CN126	105
CN130	132
CN131	106
CN132	119
CN134	133
CN136	102
CN137	126

SYMBOL NO.	INDEX NO.
CN150	107
CN151	131
CN153	130
CN157	120
CN160	115
CN161	106
CN162	108
CN170	113

DIODE

SYMBOL NO.	INDEX NO.
D101	154
D102	137
D103	137
D104	136
D105	136
D106	136

FIB

SYMBOL NO.	INDEX NO.
FIB101	100
FIB102	100
FIB103	100
FIB104	100
FIB105	100

FUSE

SYMBOL NO.	INDEX NO.
FS101	134

IC

SYMBOL NO.	INDEX NO.
IC101	143
IC102	140
IC103	142
IC104	140
IC105	140
IC106	141
IC107	-----
IC108	140
IC109	141
IC110	139

SYMBOL NO.	INDEX NO.
IC111	-----
IC112	145
IC113	141
IC114	141
IC115	140
IC116	140
IC117	140
IC118	144
IC119	141

RAY

SYMBOL NO.	INDEX NO.
RAY101	148
RAY102	148
RAY103	148
RAY104	148
RAY105	148
RAY106	148
RAY107	148
RAY108	148
RAY109	148
RAY114	148

SYMBOL NO.	INDEX NO.
RAY115	147
RAY116	148
RAY117	148
RAY118	147
RAY119	148
RAY120	148
RAY121	148
RAY122	148
RAY123	148
RAY124	148

SYMBOL NO.	INDEX NO.
RAY125	148
RAY126	148
RAY127	148
RAY128	148
RAY129	148
RAY130	148
RAY131	148
RAY132	148
RAY133	148
RAY134	148

25. IOCSS Board (A193)

RAY

SYMBOL NO.	INDEX NO.
RAY135	148
RAY136	147
RAY137	148
RAY138	148
RAY139	148
RAY140	148
RAY141	148
RAY142	148

RESISTOR

SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.
R101	154	R111	160	R121	152	R131	150	R141	160	R151	152
R102	162	R112	152	R122	152	R132	156	R142	155	R152	146
R103	161	R113	150	R123	160	R133	150	R143	151	R153	156
R104	167	R114	151	R124	157	R134	156	R144	152	R154	158
R105	152	R115	158	R125	160	R135	150	R145	152	R155	-----
R106	164	R116	160	R126	158	R136	156	R146	151	R156	156
R107	155	R117	150	R127	156	R137	150	R147	152	R157	156
R108	154	R118	151	R128	156	R138	156	R148	152	R158	152
R109	152	R119	154	R129	151	R139	150	R149	152	R159	-----
R110	155	R120	151	R130	150	R140	152	R150	152	R160	-----

RESISTOR

SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.
R161	-----	R171	166	R181	152	R191	-----	R201	152	R211	151	R221	166
R162	-----	R172	158	R182	152	R192	-----	R202	151	R212	155	R222	161
R163	-----	R173	152	R183	152	R193	161	R203	152	R213	158	R223	151
R164	-----	R174	150	R184	156	R194	152	R204	151	R214	-----	R224	159
R165	-----	R175	152	R185	152	R195	155	R205	152	R215	155	R225	151
R166	151	R176	152	R186	152	R196	158	R206	156	R216	156	R226	152
R167	156	R177	152	R187	158	R197	152	R207	166	R217	155	R227	155
R168	-----	R178	152	R188	152	R198	165	R208	152	R218	155	R228	158
R169	163	R179	152	R189	154	R199	152	R209	155	R219	151	R229	157
R170	152	R180	156	R190	151	R200	151	R210	156	R220	158	R230	155

25. IOCSS Board (A193)

RESISTOR

SYMBOL NO.	INDEX NO.	SYMBOL NO.	INDEX NO.
R231	152	R241	152
R232	152	R242	-----
R233	154	R243	151
R234	158	R244	151
R235	155	R245	166
R236	152	R246	152
R237	152	R247	152
R238	155	R248	-----
R239	155	R249	-----
R240	152	R250	151

TP

SYMBOL NO.	INDEX NO.
TP105	101

25. IOCSS Board (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
*	A193 5105	IOC Board	1

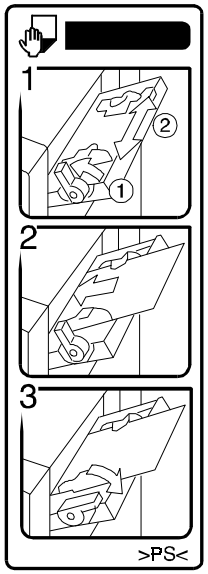
Index No.	Part No.	Description	Q'ty Per Assembly
100	1002 0307	Jumper Wire	
101	1100 1474	Test Pin - Red	
102	1102 3822	Connector - HIF3FC-20PA-2.54DSA	
103	1102 4201	Connector - 2P	
104	1102 4202	Connector - 3P	
105	1102 4203	CT Header - 4P	
106	1102 4204	CT Header - 5P	
107	1102 4205	CT Header - 6P	
108	1102 4207	Connector - 8P	
109	1102 4209	CT Header - 10P	
110	1102 4211	CT Header - 12P	
111	1102 4619	Connector - 2P	
112	1102 4620	CT Header - 3P	
113	1102 4621	CT Header - 4P	
114	1102 4623	CT Connector - 6P	
115	1102 4631	CT Connector - 2P	
116	1102 4634	CT Connector - 5P	
117	1102 4643	CT Connector - 2P	
118	1102 4648	CT Connector - 7P	
119	1102 4818	Connector - 20P	
120	1102 5007	CT Header - 14P	
121	1102 5301	Connector - 2P	
122	1102 5844	Connector - 5566-02A	
123	1102 6295	Connector - 2P	
124	1102 6300	Connector - 7P	
125	1102 6303	Connector - 10P	
126	1102 6304	Connector - 11P	
127	1102 6515	Connector - 34P	
128	1102 6662	Connector - 4P	
129	1102 6895	Connector - 40P	
130	1102 6957	Connector - 14P	
131	1102 6958	Connector - 14P	
132	1102 7513	Header - 80P	
133	1102 7583	Connector - 5566-06A - RE	
134	1107 0898	Fuse 3216CP - 3A	

Index No.	Part No.	Description	Q'ty Per Assembly
135	1400 0700	Transistor - DTD133HK	
136	1402 1144	Diode - 150MW 1SS319	
137	1402 1327	Diode - 2.0V	
138	1403 0404	LED - SEL2110R	
139	1407 1535	IC - TD62308AP	
140	1407 2187	TTLIC - SN74LS07NS	
141	1407 2219	IC - TD62003AP	
142	1407 4565	IC - TE6251	
143	1408 0595	IC - NJM2904M	
144	1408 1204	IC - TA8083P	
145	1408 1225	IC - STK672-040	
146	1600 1449	Resistor - 47 Ω 3W	
147	1601 7800	Resistor Array - 1K Ω ±5% 1/16W	
148	1601 7801	Resistor Array - 10K Ω ±5% 1/16W	
149	1605 0447	Capacitor - 10PF 50V	
150	1630 2221	Resistor - 220 Ω	
151	1630 3102	Resistor - 1KΩ 1/10W ±5%	
152	1630 3103	Resistor - 10KΩ 1/10W ±5%	
153	1630 3154	Resistor - 150K 0HM ±5% 1/10W	
154	1630 3220	Resistor - 22 Ω ±5% 1/10W	
155	1630 3243	Resistor - 24KΩ ±5% 1/10W	
156	1630 3332	Resistor - 3.3KΩ 1/10W ±5%	
157	1630 3391	Resistor - 390 Ω 1/10W ±5%	
158	1630 3472	Resistor - 4.7KΩ 1/10W ±5%	
159	1630 3820	Resistor - 82 Ω ±5% 1/10W	
160	1632 3900	Resistor - 390 Ω ±1% 1/10W	
161	1633 1001	Resistor - 1K Ω ±1% 1/10W	
162	1633 1002	Resistor - 10K Ω ±1% 1/10W	
163	1633 1201	Resistor - 1.2K Ω ±1% 1//10W	
164	1633 3301	Resistor - 3.3K Ω ±1% 1/10W	
165	1633 3901	Resistor - 3.9 Ω ±1% 1/10W	
166	1633 4700	Resistor - 470 Ω - ±1% - 1/10W	
167	1633 4701	Resistor - 4.7K Ω ±1% 1/10W	
168	1640 5101	Capacitor - 100µF ±20% 50V	

Index No.	Part No.	Description	Q'ty Per Assembly
169	1642 1101	Capacitor - 100µF ±20% 16V	
170	1642 1470	Capacitor - 47µF ±20% 16V	
171	1643 5100	Capacitor - 10µF ±20% 50V	
172	1660 3471	Capacitor - 470PF 50V	
173	1660 7103	Capacitor - 10000PF 50V	
174	1660 7104	Capacitor - 100000PF 50V	
175	A193 5863	IOB - Bracket	
176	0451 3006B	Tapping Screw - M3x6	
177	1105 0239	Spacer	
178	1105 0344	Clamp	
179	1105 0409	Spacer	
180	A193 5820	Bracket - Harness Guide	
181	A193 5823	Bracket - Finisher	
182	A193 5826	Shield Plate	
183	A193 5864	IOB Support Bracket	
184	A193 5865	Stand - IOB	
185	A193 5871	Rear Cover Bracket - Right	
186	A193 5872	Rear Cover Bracket - Middle	
187	0451 3006B	Tapping Screw - M3x6	

26. Decal and Document (A193)

1



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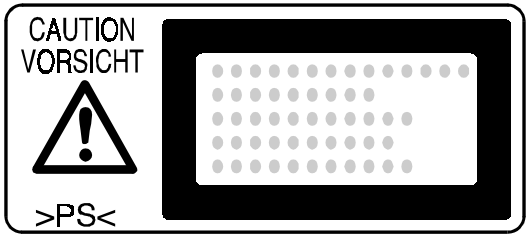

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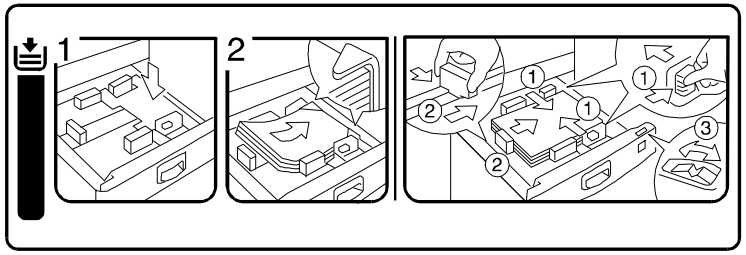

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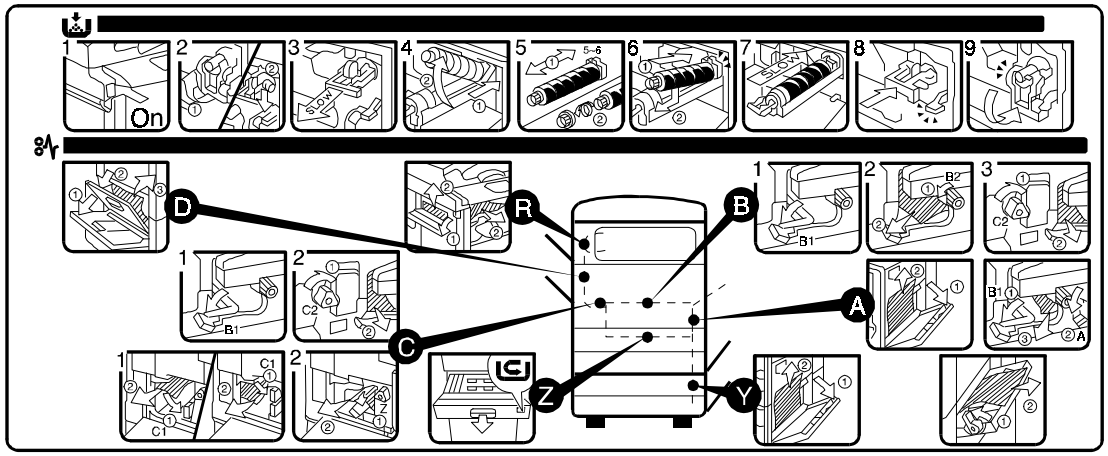

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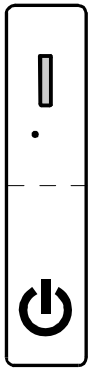

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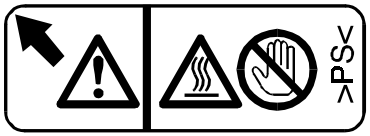

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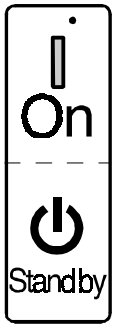

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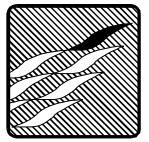


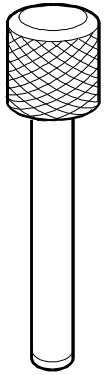
26. Decal and Document (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	G020 2788	Decal - By-pass Table	1
2	G020 1919	Decal - Optics Fiber	1
3	G020 2668	Decal - Paper Set	1
4	G020 1917	Decal - LD	1
5	A193 1319	Operation Decal	1
6	A193 7361	Decal - Main Switch	1
7	G020 4128	Decal - High Temparature	1
8	A193 7363	Decal - AC Switch	1
9	A134 1380	Emblem (GES)	1
9	A133 7112	Emblem (SVN)	1
9	A134 1383	Emblem (RIC/LEN)	1

Index No.	Part No.	Description	Q'ty Per Assembly

27. Special Tools (A193)

1



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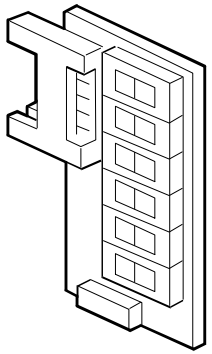

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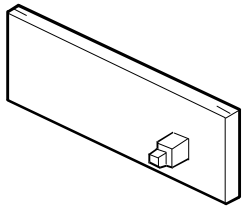

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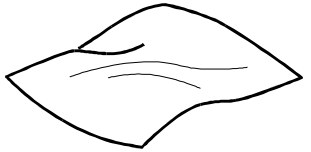

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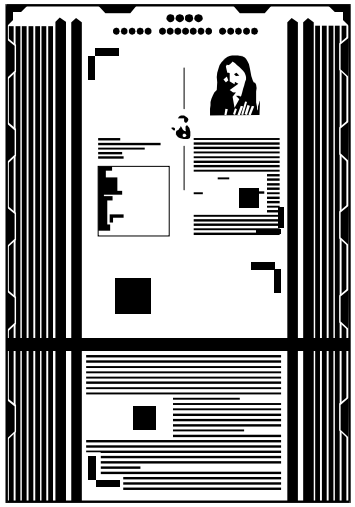

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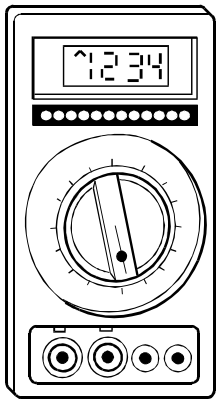

27. Special Tools (A193)

Index No.	Part No.	Description	Q'ty Per Assembly
1	A006 9104	Scanner Positioning Pin (4PCS/SET)	1
2	A139 9351	ROM Board 2	1
3	A193 9353	Flash ROM/SRAM Copy Tool 2	1
4	A153 9004	Wiping Cloth (for the Drum Charge RO)	1
5	5420 9516	Test Chart - OS-A3 (10 PCS/SET)	1
6	5420 9507	Digital Multimeter	1

Index No.	Part No.	Description	Q'ty Per Assembly

PARTS INDEX

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P EPA ED B I CHECKED B F		F OM 2 F I D QAC
CLA IFICA ION ☐ A ☐ ☐ ■ I ☐ I ☐ O		MODEL AD1

1. Copying Speed in Multicopy mode, page 1-2

	A4 sideways/ 11"x8$_{1/2}$"	**A3/11"x17"**	**B4/8$_{1/2}$"x14"**
N	15	9	10
4MB 8MB	20	11	12

C

	A4 sideways/ 11"x8$_{1/2}$"	**A3/11"x17"**	**B4/8$_{1/2}$"x14"**
Non-memory copy mode (1 to 1 copy)	15	9	10
Memory copy mode	20	11	12

2. COPY PROCESS, Overview, page 1-12

2 2

3. ORIGINAL SIZE DETECTION IN PLATEN MODE, page 2-4
Second paragraph from the bottom, second sentence

C

H

4. LASER EXPOSURE, Overview, page 2-18
The polygon motor speed

		M
	400	C F P
C	400	**Copy and Printer**

5. PAPER SEPARATION AND TRANSPORTATION, page 2-57
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B 2

2 5

C

B **-2 kV** **-2.5**

kV

6. ENERGY SAVER MODE, COPIER/PRINTER, page 2-66
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A O M

CP GAPD O

C

A O M

CPU/GAPD Off

7. Power Consumption, page 2-70
Note column for Night Mode Level 2

I
N M L 1

C

I N M L 1

8. SP mode no. 4-417, page 4-16

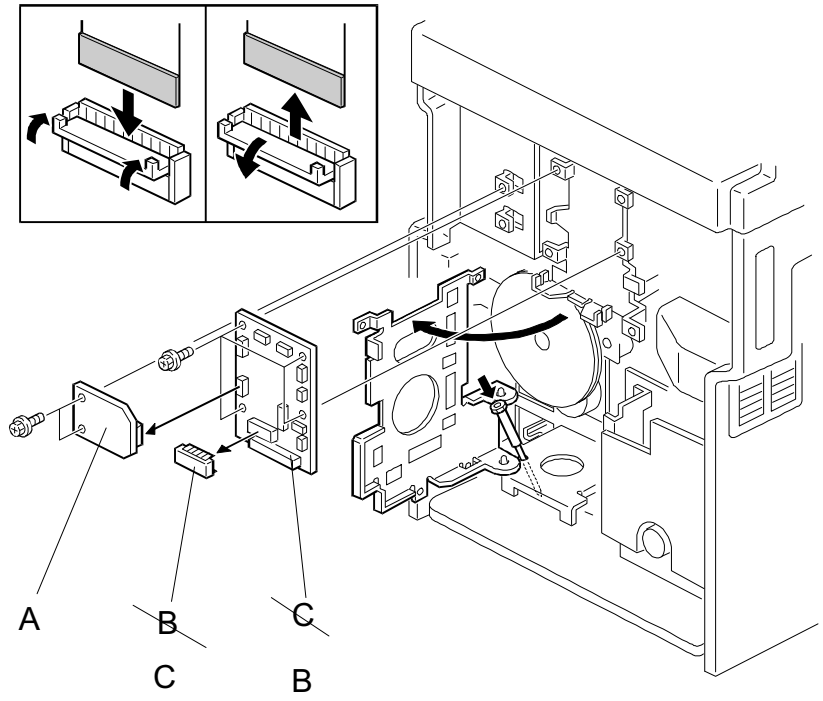
		C
7	B 1	N
8	B 2	
9	B 3	

9. PM TABLE

PM

A O ND HE D M					
	EM	100	200	300	NO E
D B					

11. MSU BOARD/BICU BOARD, page 6-36



RICOH	Technical Bulletin	No. RTB-002

BJEC C	DF 43	DA E N 15 96 PAGE 1 1

P EPA ED B I CHECKED B F	F OM 2 F I D QAC

CLA IFICA ION	MODEL
■ A ☐ ☐ I ☐ ☐ I ☐ ☐ O	AD 1

Instruct customers not to mix different size originals when feeding them with the DF-43.

Note : A4 A3

Reason:

DF 43

Symptoms when mixing different original sizes:

I

I

I

I

REVISED ON: NOVEMBER 30, '96

RICOH

Technical Bulletin

No. RTB-003 (V2.0)

SUBJECT: Black Dot reproduction can be reduced	DATE: Nov. 30, '96 PAGE: 1 of 3
PREPARED BY: T. Itai for CHECKED BY: S. Fujii	FROM: 2nd. Field Information Dept. QAC

CLASSIFICATION:

- ■ Action Required
- ■ Troubleshooting
- ☐ Retrofit Information
- ☐ Revision of service manual
- ☐ Information only
- ☐ Other

MODEL: AD-1

If there are black dots on the copy, especially when making generation copies, take the following countermeasures.

Causes :

1. The AD-1 scanner is very sensitive, so it will reproduce tiny specks on the exposure glass or faint dots on a original in the copy.
2. When using the document feeder, the DF exposure glass may be smudged from originals.

Recommended Measures :

1. Change the MTF filter and Threshold level settings as follows.

	SP Mode	Default Setting	Recommended Setting as a Countermeasure
MTF Filter	4-407-2*	7	4
Threshold Level	4-418-1	48	55

* :The current MTF Filters (SP modes 4-407-1 to 4) are for greyscale mode. Fax mode always uses binary mode (refer to page 13 of the copier's operating instructions) so these filters have no influence on fax mode.

* : With the new version of the ROM, new MTF filters have been added for text mode with binary picture processing (Black and White text originals), and they are independent of the above filters. Refer to "Additional Information" in this RTB.

2. After changing the MTF filter and Threshold level, if you still find an unacceptable level of black dots on the copy, or poor reproduction of a low contrast original, such as one written in pencil, do the following.
   Change the MTF filter and Threshold levels by referring to the following table. A table value of "0" is the result of using the settings recommended on the previous page (MTF Filter: 4, Threshold: 55). The default setting is "+5" (MTF Filter: 7, Threshold: 48).
   - Using a lower table value decreases the amount of black dots, but will reduce the reproduction of low contrast originals.
   - Increasing the value will increase the reproduction of low contrast originals, but black dot reproduction will also increase.

		(Weak)	← MTF Filter →		(Strong)
		0	4	7	6
(High)	64	-7	-5	-2	-1
↑	55	-6	0	+1	+3
Threshold	48	-4	+2	+5	+7
↓ (Low)	40	-3	+4	+6	+8

3. If you find black dots when using the document feeder, clean the exposure glass.

ADDITIONAL INFORMATION:
With the new ROM version (ROM version E for North American models or D for European models), the following two MTF filters have been added for text mode with binary picture processing (designated for black/white text mode). The current filters of SP Modes 4-407-1 to 4 are for text mode with grayscale processing. Use these SP Modes with the new ROM version for binary picture processing mode.

1) SP Mode 4-407-8: For reproduction ratios of 25 % - 83% (use the table below)
2) SP Mode 4-407-9: For reproduction ratios of 84% - 400% (use the above table)

		(Weak)	← MTF Filter →		(Strong)
		2	0	4	7
(High)	64	-6	- 4	-1	+1
↑	55	-5	0	+2	+4
Threshold	48	-3	+3	+6	+8
↓ (Low)	40	-2	+5	+7	+9

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RICOH

Technical Bulletin

No. RTB-003 (V2.0)

SUBJECT: Black dot reproduction can be reduced

DATE: Nov. 15, '96
PAGE: 3 of 3

The new ROM and the change of the default settings (described in "Recommended Measures") have been incorporated into the production machines as follows.

Model Code	Model	Production Machine	Serial Number
A193-10	Nashuatec	November	A106110001
A193-15	Savin	October	6A76100001
A193-17	Ricoh-North America	October	A7226100001
A193-55	Lanier	November	L5026110001
A193-27	Ricoh - EU	October	A72226100531

RICOH	Technical Bulletin	No. RTB-004
BJEC P D I P 2 801		DA E N 15 96 PAGE 1 1
P EPA ED B I CHECKED B F		F OM 2 F I D QAC
CLA IFICA ION ■ A ☐ ☐ I	☐ ☐ I ☐ O	MODEL AD 1

At installation of the AD-1, perform the TD Sensor Initial Setting as shown below before making copies.

Problems :

D I
AD 1

1 B 20

2

3 D B

4 C 393

Causes :

1
30 PC

2 Q M
20 A3 DL

3 D

Measures :

1 B D I P M
2 801 4 9 M

2 A D I 20 A3 DL

RICOH	Technical Bulletin	No. RTB-005

BJEC O P	DA E N 15 96 PAGE 1 1

P EPA ED B I CHECKED B F	F OM 2 F I D QAC

CLA IFICA ION	MODEL
■ A ☐ ☐ I ☐ ☐ I ☐ ☐ O	AD 1

Instruct the customers to take the following steps to transmit facsimile mail while making memory copies.

Problem :

M

1 P

2

Reason :

AD 1

Measure :

I

RICOH	Technical Bulletin	No. RTB-006

BJEC OHP	DA E N 15 96 PAGE 1 1

P EPA ED B I CHECKED B F	F OM 2 F I D QAC

CLA IFICA ION	MODEL
■ A ☐ ☐ ☐ I ☐ I ☐ O	AD 1

Instruct customers to use the face up tray when copying on thick paper (81 to 157 g/m2 , or 21 to 42 lbs), post cards, labels, or OHP sheets.

Note : O I I

Problem :

RICOH	Technical Bulletin	No. RTB-007
BJEC C900 C E 5 P		DA E N 30 96 PAGE 1 1
P EPA ED B I CHECKED B F	F OM 2 F I D QAC	
CLA IFICA ION ☐ A ☐ ■ ☐ I ☐ I ☐ O	MODEL AD 1	

C900 C E 5
P A F 5 P
C900

F 5 P 3
5

Caution :

B

RICOH	Technical Bulletin	No. RTB-008
BJEC C		DA E N 30 96 PAGE 1 1
P EPA ED B I CHECKED B F	F OM 2 F I D QAC	
CLA IFICA ION ■ A ☐ ☐ ☐ I ☐ I ☐ O	MODEL AD 1	

B AD 1

1 P D I
D D

2 D I

3 10

Reason :

I
Q M

I
C

MB Correction

15-May-97

M AD 1 DF43	D 15 M 97	N 9
O H	P M H	
F QAC 2 F I D		

C	☐	☐ P	☒ A
	☐ M	☐ E	☐
	☐ P	☐	☐
	☐ O		

P N A6281615

Note :

1 2

3

O H B ***(A6281613)***

O H P ***(A6281614)***

O H ***(A6281615)***

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RICOH	Technical Bulletin	No. RTB-010
BJEC C		DA E N 30 96 PAGE 1 1
P EPA ED B I CHECKED B F	F OM 2 F I D QAC	
CLA IFICA ION ■ A ☐ ☐ ☐ I ☐ I ☐ O	MODEL AD 1 DF43	

I

Problem :

1 O
2 C

Causes :

1 A
2
3

Reason :

I

Measures :

1

2
C LCD
P M 6 901

RICOH	Technical Bulletin	No. RTB-011
BJEC C120		DA E N 30 96 PAGE 1 2
P EPA ED B I CHECKED B F	F OM 2 F I D QAC	
CLA IFICA ION ■ A ☐ ■ ☐ I ☐ I ☐ O	MODEL AD1	

SC120 may occur after:

I

Causes :

1 I AD 1
HP

2 I HP

Measures :

1

2 I

M C	M	P M	N
A193 10	N		
A193 15			
A193 17	N A		
A193 55	L		
A193 27	E		

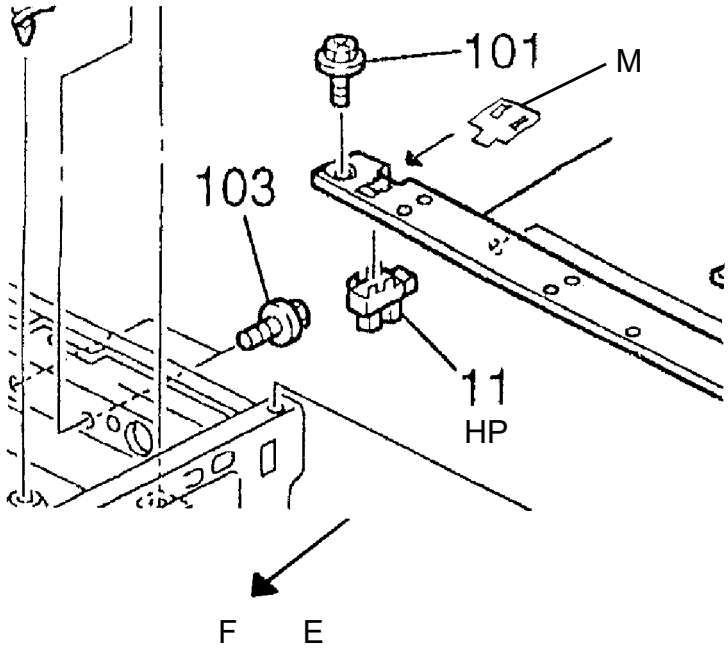
How to set the mylar sheet :

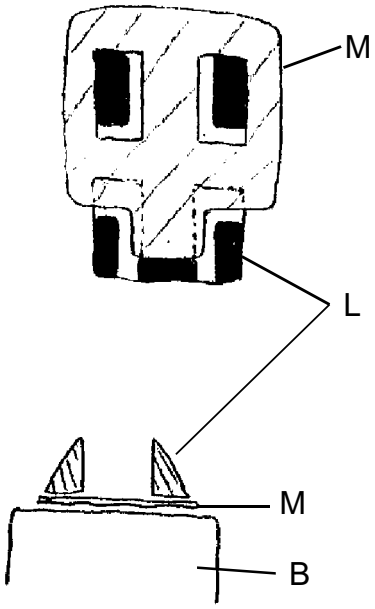
A

Caution :

1 A

2 M


101
M
103
11
HP
F
E


M
L
M
B

RICOH	Technical Bulletin	No. RTB-012
BJEC I P		DA E N 30 96 PAGE 1 1
P EPA ED B I CHECKED B F		F OM 2 F I D QAC
CLA IFICA ION ☐ A ☐ ■ I ☐ ☐ I ☐ O		MODEL AD 1

<Installation Procedure>

1 1 I

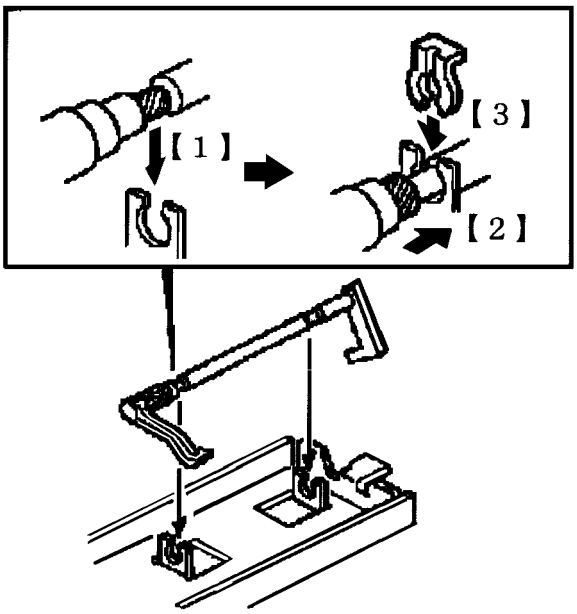
2
2 I

3 P

<Confirmation>

P

<Illustration>



RICOH	Technical Bulletin	No. RTB-013
BJEC OM B		DA E N 30 96 PAGE 1 1
P EPA ED B I CHECKED B F		F OM 2 F I D QAC
CLA IFICA ION ■ A ☐ ☐ ☐ I ■ I ☐ O		MODEL AD 1

<Symptom>

36 70 B C

<Cause>

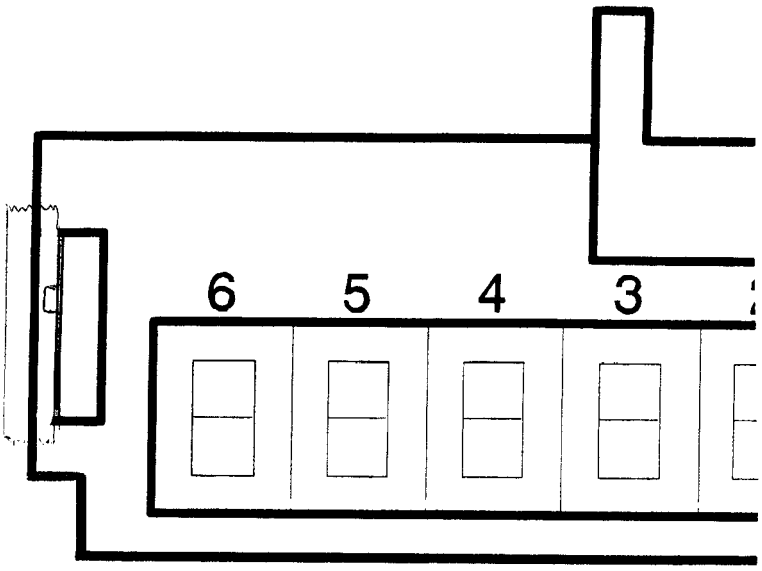
OM

28 10 DG

<Action required>

I OM

I



RICOH

Technical Bulletin No. RTB-014

SUBJECT: ROM History (AD1-FAX option)

DATE: Dec. 15, '96
PAGE: 1 of 2

PREPARED BY: K. Ugaeri
CHECKED BY: S. Fujii for

FROM: 2nd Field Information Dept. QAC

CLASSIFICATION:
- ☐ Action Required
- ☐ Troubleshooting
- ■ Retrofit Information
- ☐ Revision of service manual
- ☐ Information only
- ☐ Other

MODEL: AD1

We inform you of the firmware history for the AD1-Fax option.
(For the USA Model)

A1945581	File No. (A194uxx)	Version	Total C.SUM	SUM(0H)	SUM(0L)	SUM(1H)	SUM(1L)	Production
C	03	1.23	DD95	CB2A	27F0	BD19	72A5	1st Mass Prod.
D	04	1.29	E6D7	83C2	E9BD	47BC	7F1A	November Prod. 96
E	05	1.38	EAAE	A99A	5C74	919A	5A3A	December Prod. 96

(For the European/Asian Model)

A1945582	File No. (A194exx)	Version	Total C.SUM	SUM(0H)	SUM(0L)	SUM(1H)	SUM(1L)	Production
B	02	1.23	3A44	0A20	FC8A	691F	FEBA	1st Mass Prod.
C	03	1.29	3270	D0F9	39CD	F1E6	19A3	November Prod. 96
D	04	1.38	3745	FA2F	B98C	C966	E8B9	December Prod. 96

(For European 2nd Language)

A1945585	File No.	Version	Total C.SUM	SUM(0H)	SUM(0L)	SUM(1H)	SUM(1L)	Production
A		1.38		E09E	340F	6301	B2A2	December Prod. 96

Symptom corrected	US	EU/ ASIA	EU2
When the handset is picked up at ringing signal detection, the reception is disconnected and the reception job rarely remains internally. In this case, the display is not going to "Handset Mode" even if the handset is picked up, or "line is busy" is displayed for direct tx from the ADF.	E	D	A
In manual tx mode with the handset, the operator presses the Start key and hangs up the handset at the same time. Then the transmission job remains internally. In this case, both transmission and reception are not available, or "Handset mode" is always displayed. This problem can be solved by picking up and hanging up the handset again.	E	D	A
The chain dial function is not used by the on-hook or handset mode.	E	D	A
When the machine stores a letter-size original using image rotation, the compression does not succeed. Then the job is reset if the original is complicated, and it is scanned in photo mode.	E	-	-

<table>
<tr><td>After entering the personal code and going to the fax mode in the personal code transmission mode, if a programmed key (Quick dial) is used, the personal code is not printed on the JOURNAL report.</td><td>E</td><td>D</td><td>A</td></tr>
<tr><td>New Bit Switches are added for some reports.
System SW 1F-Bit 1: When a memory overflow or storing jam occurs, the Memory Storage Report and Memory Transmission Report are not printed out.
0: OFF(Default)-Print 1: ON-No print
User SW 03-Bit 2 : Memory Storage Report is printed automatically.
0: OFF(Default) 1: ON-Print
System SW 1E-Bit 1 : The method of erasing files when the memory is full
0: Only a page is eraced 1: The file is eraced.

*The combination of the above bit switches;
<table><tr><td>User SW 03:
System SW 1F:</td><td>OFF
OFF</td><td>ON
OFF</td><td>OFF
ON</td><td>ON
ON</td></tr><tr><td>Memory Storage OK
Memory Storage NG
Continuing after the memory is full
(by System SW 1E-Bit1)</td><td>X
O
O</td><td>O
O
O</td><td>X
X
X</td><td>O
X
X</td></tr></table>O=Memory Storage Report is printed out.</td><td>E</td><td>D</td><td>A</td></tr>
<tr><td>Only for Belgium approval: When the communication is finished while the handset is still picked up, the buzzer must sound till the handset is hung up.
G3 SW 0F-Bit 1 : 0:Buzzer is ON 1:Buzzer is OFF
*The default of this bit is 0 for Belgium.</td><td>-</td><td>D</td><td>A</td></tr>
<tr><td>If there is a conflict between G3 Reception (analog port) and iG3 Transmission (digital port), the Communication LED turns on and is locked.</td><td>D</td><td>C</td><td>-</td></tr>
<tr><td>When the operator picks up the handset and dials using a quick or a speed dial then hangs up the handset during dialing, the display always shows "Handset Mode". ①
or
When the handset is hung up then picked up again within 1 second after pressing the Start key in non-memory Tx mode, the display always shows "Handset Mode". ①

If the operator makes the transmit operation or presses the Stop key, the display locks.
*If the handset is hung up then picked up again under condition ①, the display is not locked.</td><td>D</td><td>C</td><td>-</td></tr>
<tr><td>When a ringing signal comes in when going into the night mode, the machine goes into the night mode and goes back to Ready. Then the power failure report is printed out. (The file no. and communication mode on the JOURNAL are wrong.)</td><td>D</td><td>C</td><td>-</td></tr>
<tr><td>New User Switch for Forwarding: User Switch 0E (SW14)
bit5 : 0 - Off (Default)
1 - On *All received files are forwarded to the transfer address.
*On the user parameter list, the following description is not printed. "Forwarding all received files ON/OFF"</td><td>D</td><td>C</td><td>-</td></tr>
<tr><td>In the date input mode, the display shows "24hr format" instead of "12hr format".</td><td>D</td><td>-</td><td>-</td></tr>
<tr><td>The download and upload function from FCU board to FCU board with the feature card do not work.</td><td>D</td><td>C</td><td>-</td></tr>
<tr><td>French version only: The TEL number of quick and speed dials cannot be corrected.</td><td>-</td><td>C</td><td>-</td></tr>
<tr><td>German versiononly: Wording correction (5 wordings)</td><td>-</td><td>C</td><td>-</td></tr>
<tr><td>Spanish version only: A default setting was changed. *G3 Switch 0F bit 0 0 → 1</td><td>-</td><td>C</td><td>-</td></tr>
</table>

E I ED ON JAN A 15 97

RICOH **Technical Bulletin** **No. RTB-015A**

BJEC OM H AD1 C	DA E J 15 97 PAGE 1 1
P EPA ED B K CHECKED B F	F OM 2 F I D QAC

CLA IFICA ION
☐ A ☐
☐ ☐ I
■ I ☐ O

MODEL
AD1

AD1

F A M

A1935532	F N A193		C M	M 0H	M 0L	P
D	04	1 16	55DD	178E	3E4F	1 M P
E	05	1 23	FB24	B285	489F	N P 96
F	06	1 31	F96B	F66D	02FE	D P 96
G	07	1 33	5D03	2ECA	2E39	J P 97

F E A M

A1935533	F N A193		C M	M 0H	M 0L	P
C	103	1 16	B574	E4C1	D0B3	1 M P
D	104	1 23	FC4B	98CE	637D	N P 96
E	105	1 31	0ADC	41C5	C917	D P 96
F	107	1 33	4C77	CFF3	7C84	J P 97

	A	E A
B A 7 E M F P P4 998 999	G	F
	G	F
C321	G	F
P2 201	G	F
C921 M A E A	F	E
C101 IP P	F	E
P5 803 N PC D I	F	E
M P5 945 P M	F	E
P P	F	E
	F	E
ADF A	E	D
A DF	E	D

RICOH	Technical Bulletin	No. RTB-016
BJEC D		DA E D 15 96 PAGE 1 1
P EPA ED B K CHECKED B F		F OM 2 F I D QAC

CLA IFICA ION		MODEL
■ A	☐	AD1
☐	☐ I	
☐ I	☐ O	

<Sympton>
I AD1

<Cause>

<Action required>

A AD1

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RICOH	Technical Bulletin	No. RTB-017
BJEC F I C101		DA E D 15 96 PAGE 1 2
P EPA ED B I CHECKED B F		F OM 2 F I D QAC
CLA IFICA ION ■ A ☐ I ☐ I	☐ ☐ I ☐ O	MODEL AD1

C101 I

Symptom :

A C101 AD 1
C101 C

Occurrence Conditions :

BIC E 10 15 17
55 D E 19 22 26 27 29 65

1 I P 4 417 IP P P
2 C M D
3

C101

Note : F BIC F E E

To reset to the normal operating condition :

1 B P 4 417 0 N P

2

Additional Information :

C101 C C C C BIC
E D E

L C C A
D
P C
D E L
D E L H
D B
D B H

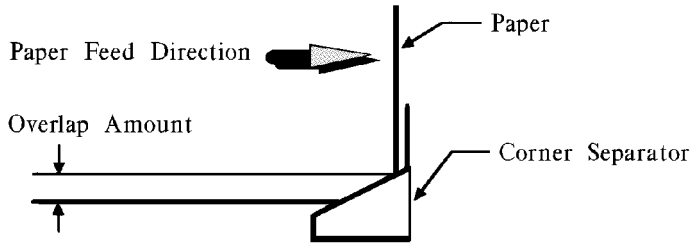
RICOH	Technical Bulletin	No. RTB-018
BJEC P F J P		DA E J 15 97 PAGE 1 2
P EPA ED B K CHECKED B F		F OM 2 F I D QAC
CLA IFICA ION ☐ A ■ ☐ I	☐ ☐ I ☐ O	MODEL AD1

P

A
1 C

M

2 C



1
5 7 ± 1 2 AD 1 P
6 0 ± 1 2 O P

2
1 5

C
I

D

1 5

P
M
D F

3 C
C
I

A

RICOH T B

RTB Correction

15-Apr-97

M AD1 DF43	D 28 F 97	N 019	1 2
B	P K		
F QAC 2 F I D	C F T. Inoue		
C	☒ P A ☐ M ☐ E ☐ ☐ P ☐ ☐ ☐ O		

SYMPTOM

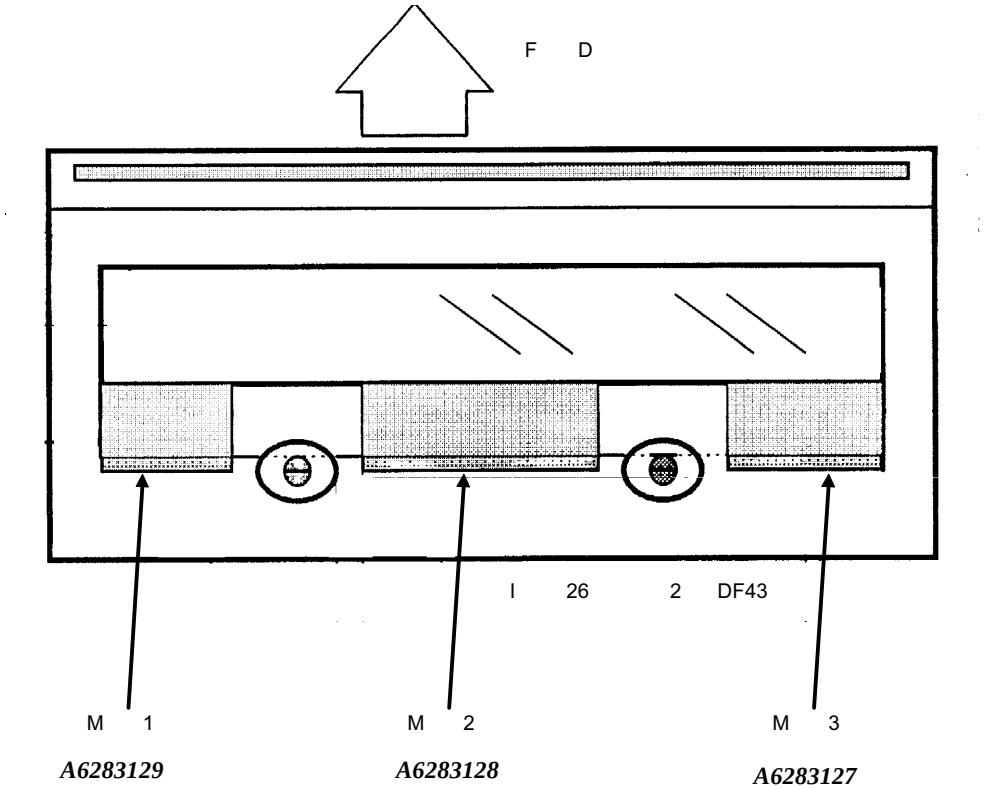
B

CAUSE

D

SOLUTION

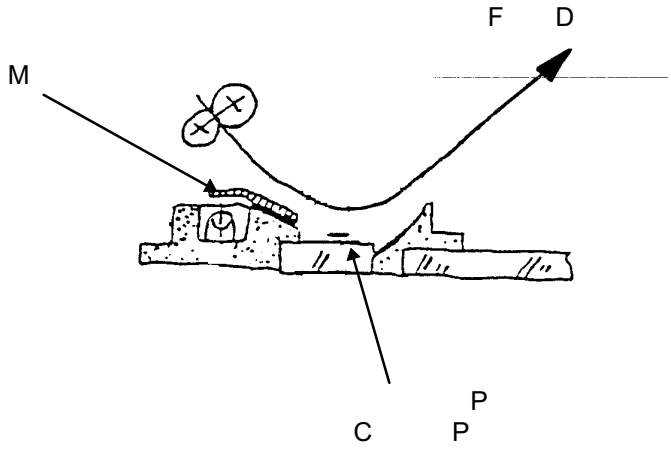
1 ***three*** A6283192



A6283129 *A6283128* *A6283127*

F 1

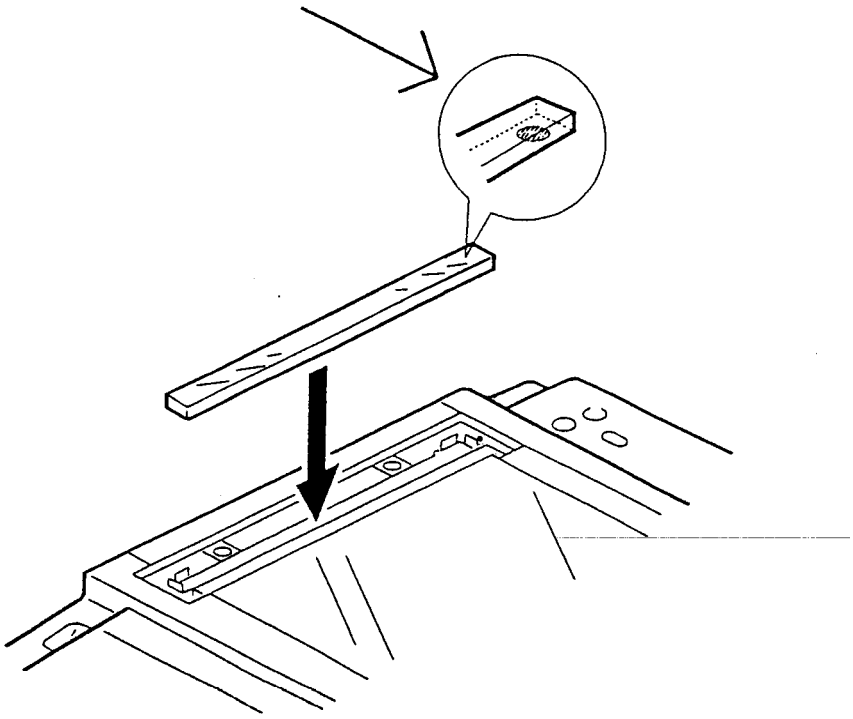
B



F 2

2

N



F 3

RICOH T B

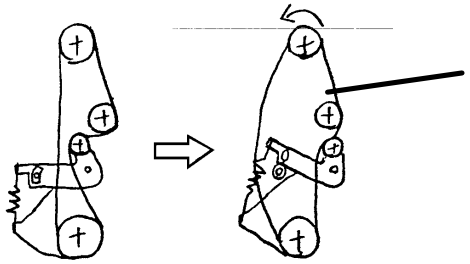
M AD1	D 28 F 97	N 020	1 2
N	P K		
F QAC 2 F I D	C F		
C	☒ P	☐ A	
	☐ M ☐ E	☐	
	☐ P ☐	☐	
	☐ O		

SYMPTOM

B

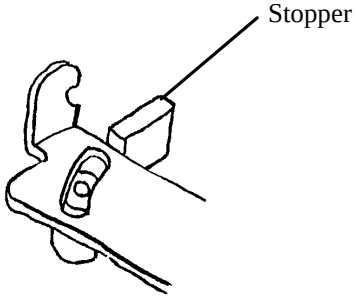
CAUSE

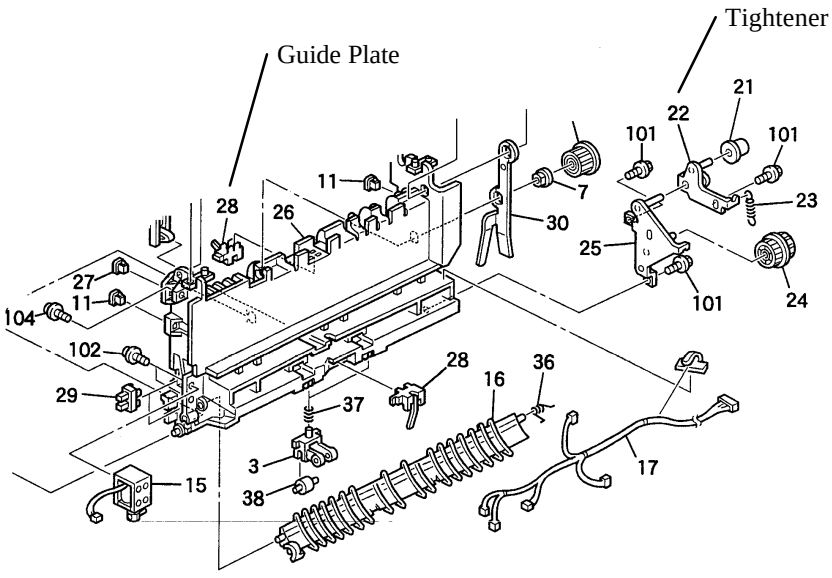
G0204333 G0204409



SOLUTION

A





RICOH T B

M AD1	D 28 F 97	N 020	2 2

MODEL NAME	H	O	JAPAN P OD C ION	
			CODE	E IAL N MBE
D420	115 60	A	A193 10	A107010001~
A IN 9920DP	115 60	A CANADA	A193 15	6A76120001~
A 200	115 60	A CANADA	A193 17	A7226110001~
A 200	115 60	AI AN	A193 19	A722702~
G 3220	220 50	E OPE	A193 22	AH26120001~
I 4201	220 50	E OPE	A193 26	3L01260001~
A 200	220 50	E OPE	A193 27	A7226110598~
A 200	220 50	E OPE	A193 29	A7226122087~
L 5020MFD	115 60	A	A193 55	L5026120516~
L 5020MFD	220 50	E OPE	A193 65	L5026120780~

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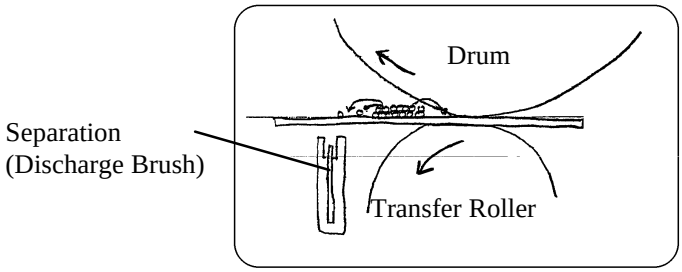
RICOH T B

M AD1	D 28 F 97	N 021	1 1
D	P K		
F QAC 2 F I D	C F		
C	☒ ☒ P ☐ A ☐ M ☐ E ☐ ☐ P ☐ ☐ ☐ O		

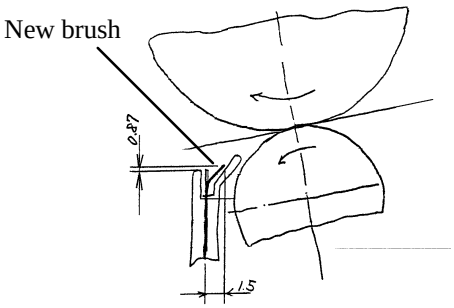
SYMPTOM

CAUSE

A



SOLUTION



O	N	D	P	I
G020 3870	A193 3870	D B	35	28

D 1996

RICOH T B

M AD1 DF43	D 28 F 97	N 022	1 1
F G P G P	P H		
F QAC 2 F I D	C F		
C	☐ ☒ P ☐ A ☐ M ☐ E ☐ ☐ P ☐ ☐ ☐ O		

SYMPTOM

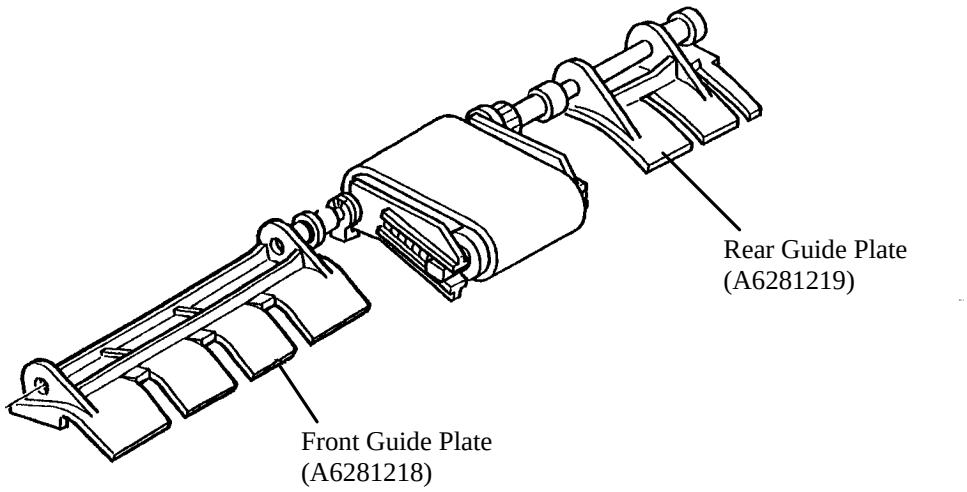
CAUSE

F G P

SOLUTION

F G P

	C	N
F G P	A628 1218B	A628 1218C
G P	A628 1219B	A628 1219C



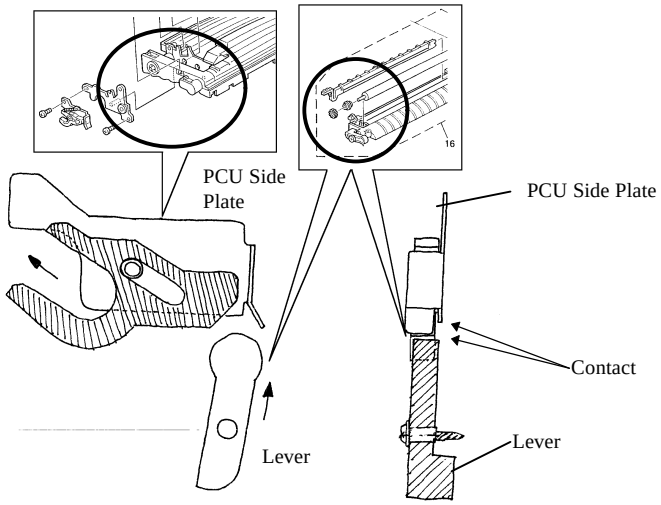
RICOH T B n

M AD1	D 28 F 97	N 023	1 2
L	P K		
F QAC 2 F I D	C F		
C	☒ P	☐ A	
☐ M	☐ E	☐	
☐ P	☐	☐	
☐ O			

SYMPTOM

CAUSE

PC



SOLUTION

PC

RICOH T B n

M AD1	D 28 F 97	N 023	2 2

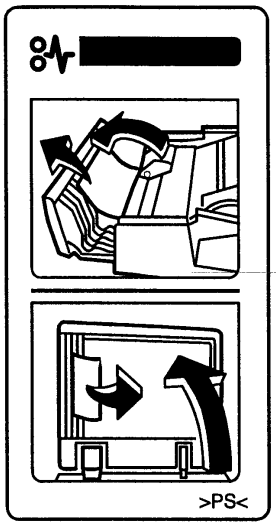
MODEL NAME	H	O	JAPAN P OD C ION	
			CODE	E IAL N MBE
D420	115 60	A	A193 10	A107010001~
A IN 9920DP	115 60	A CANADA	A193 15	6A76120001~
A 200	115 60	A CANADA	A193 17	A7226110047~
A 200	115 60	AI AN	A193 19	A722702 ~
G 3220	220 50	E OPE	A193 22	AH26120001~
I 4201	220 50	E OPE	A193 26	3L01260001~
A 200	220 50	E OPE	A193 27	A7226120787~
A 200	220 50	E OPE	A193 29	A7226122087~
L 5020MFD	115 60	A	A193 55	L5026120516~
L 5020MFD	220 50	E OPE	A193 65	L5026120780~

RICOH T B

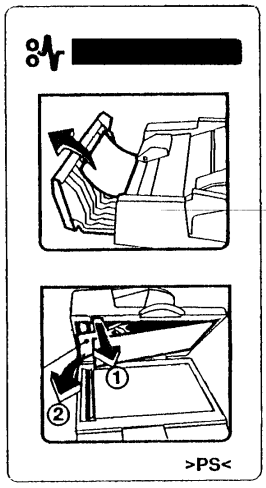
M AD1 DF43	D 28 F 97	N 024	1 1
O J D	P H		
F QAC 2 F I D	C F		
C ☐ ☐ M ☐ P ☐ O	☐ P ☐ E ☐	☐ A ☐ ☐	

J D A628 6031B ⟶ A6286031C

OLD



NEW



M AD1		D 19 M 97	N 25
P J LG		P K	
F QAC 2 F I D		C F	
C	☐ ☒ P ☐ A ☐ M ☐ E ☐ ☐ P ☐ ☐ ☐ O		

SYMPTOM

L

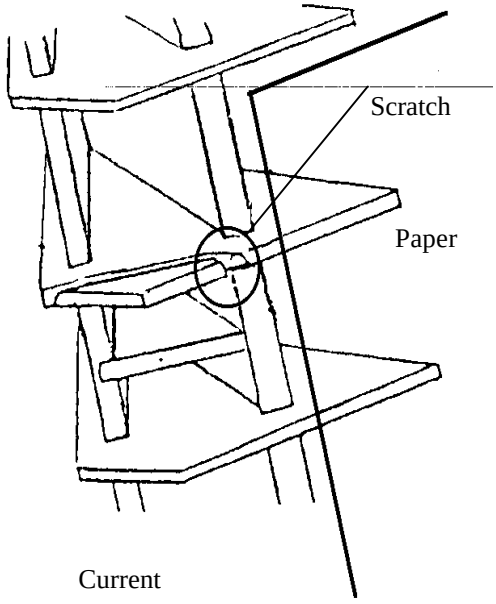
CAUSE

L

J

SOLUTION

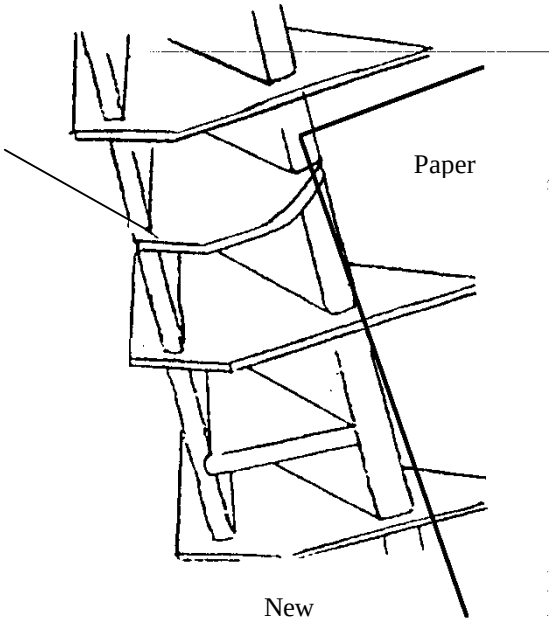
A J G L



Current

G0204424B

Added



New

G0204424C

M AD1	D 19 M 97	N 25

MODEL NAME	H	O	JAPAN P OD C ION	
			CODE	E IAL N MBE
D420	115 60	A	A193 10	A106110001
A IN 9920DP	115 60	A CANADA	A193 15	6A76120001~
A 200	115 60	A CANADA	A193 17	A7226110285~
A 200	115 60	AI AN	A193 19	A722701~
G 3220	220 50	E OPE	A193 22	AH26120001~
I 4201	220 50	E OPE	A193 26	3L01260001~
A 200	220 50	E OPE	A193 27	A7226120787
A 200	220 50	E OPE	A193 29	A7226122087~
L 5020MFD	115 60	A	A193 55	L5026120516~
L 5020MFD	220 50	E OPE	A193 65	L5026120780~

RTB Corre tion

15 un 97

M AD 1		D 19 M 97	N 26A
P		P M H	
F QAC 2 F I D			
C	☐ ☐ M ☐ P ☐ O	☒ P ☐ E ☐	☐ A ☐ ☐

S MPTOM

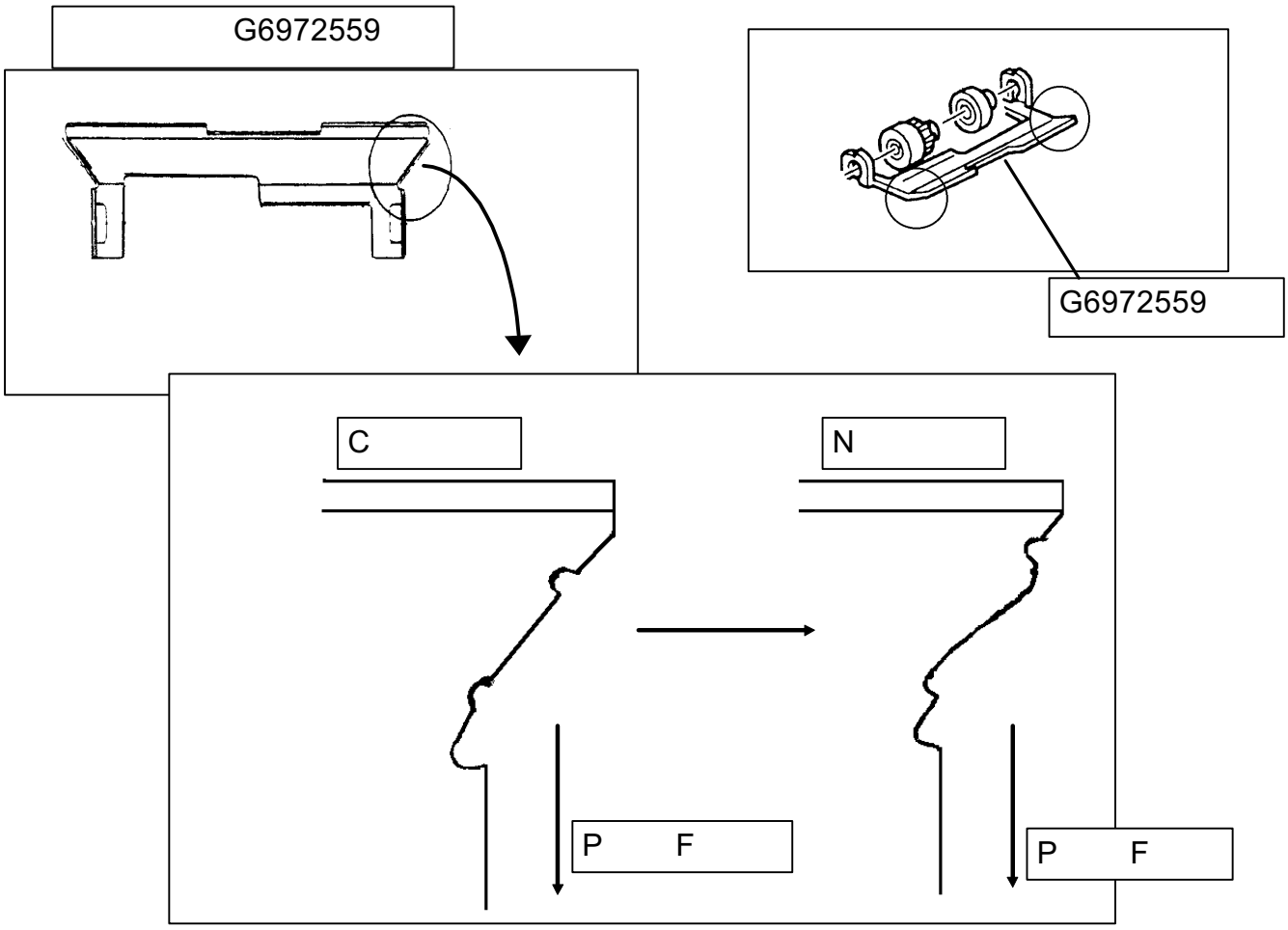
P ***paper tray unit (PS 330).***

CAUS

SOLUTIO

J

P 97



M AD 1	D 19 M 97	N 27
	P K	
F QAC 2 F I D	C F	

C	☐	☒ P	☐ A
	☐ M	☐ E	☐
	☐ P	☐	☐
	☐ O		

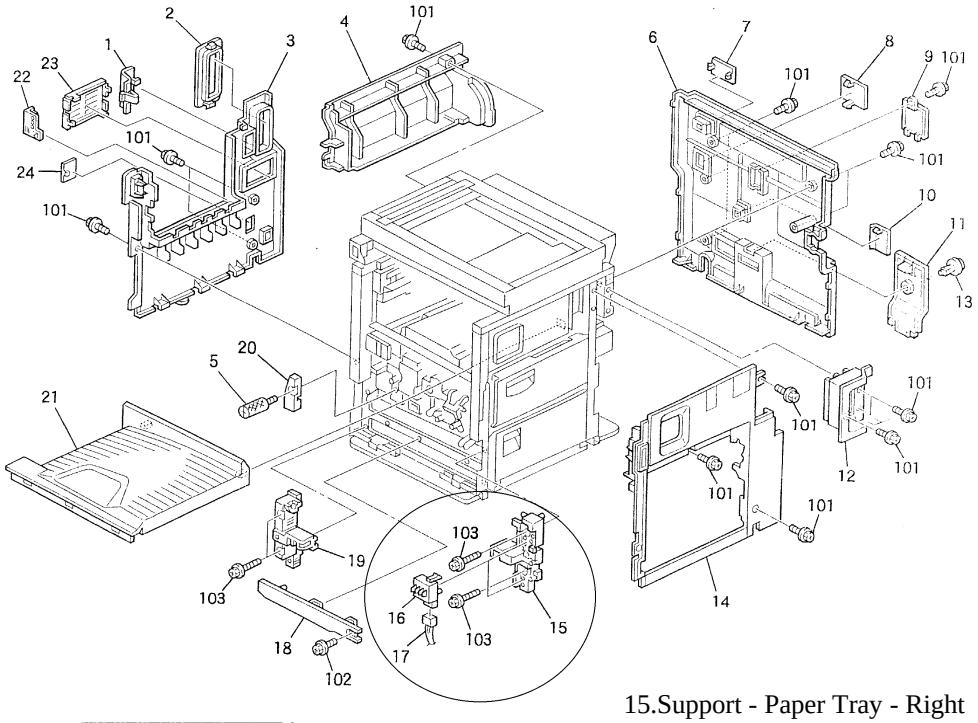
SYMPTOM

CAUSE

SOLUTION

P G0202676 J 97

2.Exterior2(A193)



15.Support - Paper Tray - Right
16.Paper Size Detector

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RTB Correction

15-May-97

M AD1		D 19 M 97	N 28
D C		P K	
F QAC 2 F I D			
C	☒ ☐ M ☐ P ☐ O	☐ P ☐ E ☐	☐ A ☐ ☐

SYMPTOM

①D

②C

CAUSE

①

②N

SOLUTION

①

②A

C		N	
G0202561	→	***G0202573A***	***(Front Paper Separator)***
G0202568	→	***G0202558A***	***(Rear Paper Separator)***

M AD1	D 19 M 97	N 28

MODEL NAME	H	O	JAPAN P OD C ION	
			CODE	E IAL N MBE
D420	115 60	A	A193 10	
A IN 9920DP	115 60	A CANADA	A193 15	6A76120001
A 200	115 60	A CANADA	A193 17	A7226120149
A 200	115 60	AI AN	A193 19	A722704~
G 3220	220 50	E OPE	A193 22	AH27020901
I 4201	220 50	E OPE	A193 26	3L00370001
A 200	220 50	E OPE	A193 27	A7227020749
A 200	220 50	E OPE	A193 29	A7227021345
L 5020MFD	115 60	A	A193 55	L5026120572
L 5020MFD	220 50	E OPE	A193 65	L502021685

M AD1 210	D 16 A 97	N 29
MAIN CON OL BOA D DAMAGE	P M H	
F QAC 2 F I D	C M I	

C	☒	☐ P	☐ A
	☐ M	☐ E	☐
	☐ P	☐	☐
	☐ O		

SYMPTOM

A P N A666 5550
AD 1 F

IC116 IC110

CAUSE

5

5 H

IC116 IC110

SOLUTION

A F

5

A

ACTION REQUIRED

F

CA ION

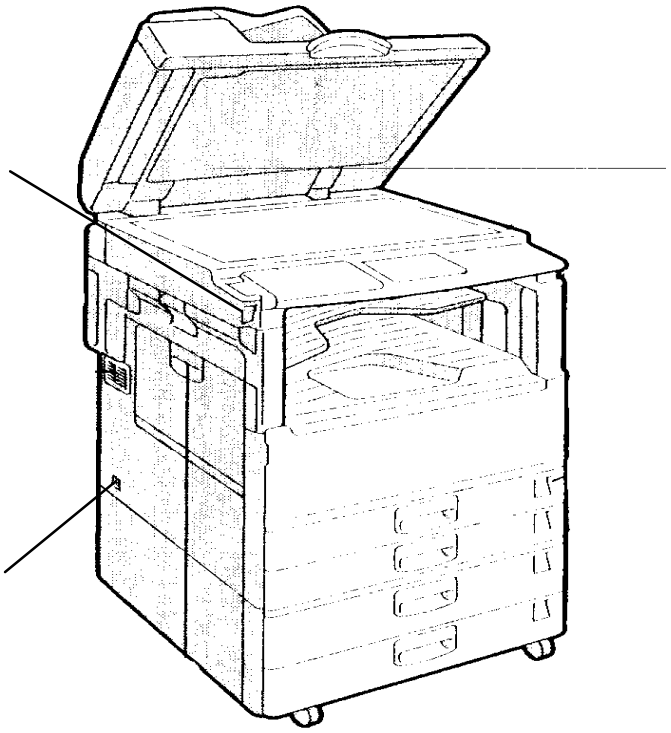
I F

P AC B
OFF F

M AD1 210	D 16 A 97	N 29

M

AC B



Note

I F AC
B F

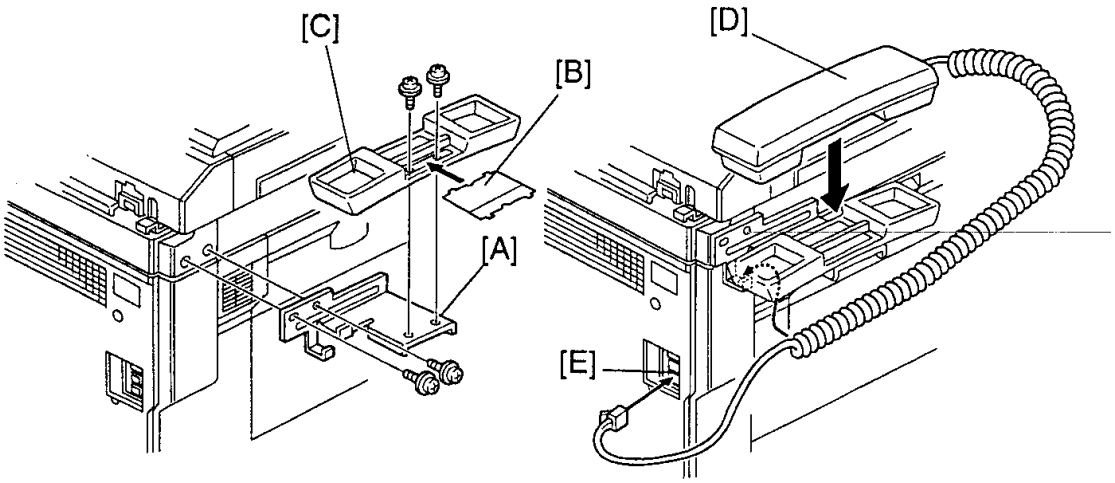
M AD1		D 30 A 97	N 30
B		P K	
F QAC 2 F I D		C F	
C	☐ P ☐ M ☐ P ☐ O	☒ P ☐ E ☐	☐ A ☐ ☐

I A 200
F O
250 A M 3 12

4.HANDSET

4 IN ALLA ION P OCED E

NO E



1 I A 2

* A F O 250

2 B C I A
2 B

3 I D C EL E

RTB Corre tion

15 un 97

I

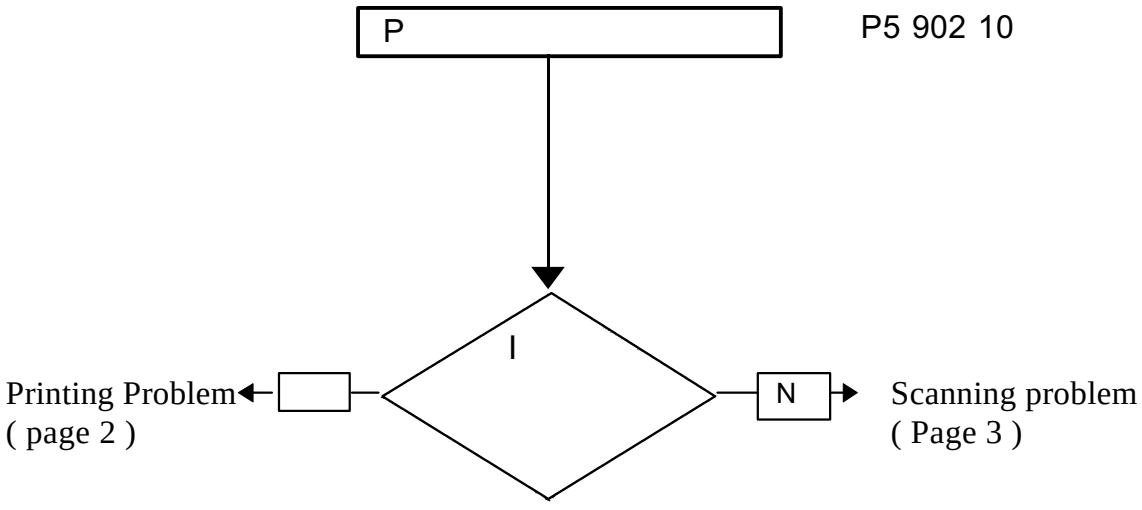
M AD1		D 30 A 97	N ***031B***
C Q D B		P K	
F QAC 2 F I D			
C	☒ ☐ M ☐ P ☐ O	☐ P ☐ E ☐	☐ A ☐ ☐

S MPTOM

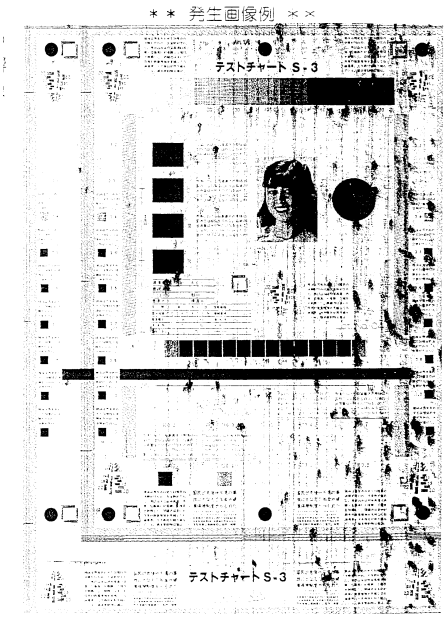
D

A tion re uired

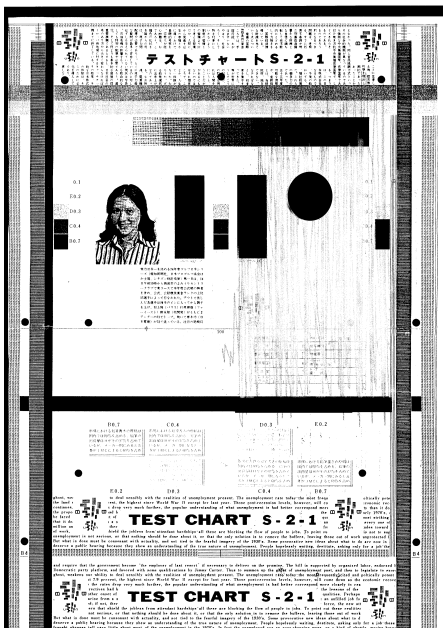
F



M AD1	D 30 A 97	N *031B*



Printing Problem



D B P

L

I

E

B
O

NO C

OM

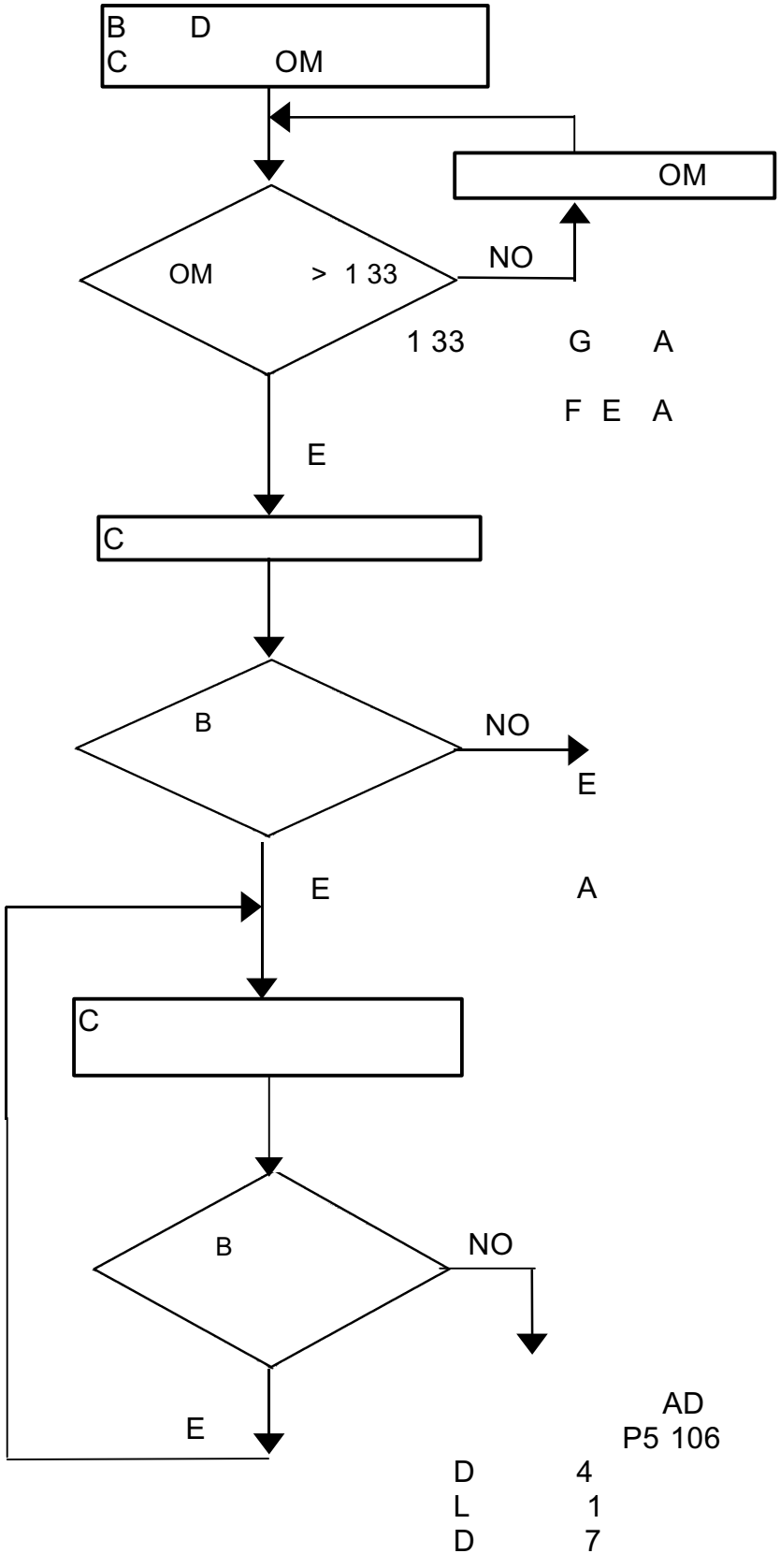
1 35
1 35 H A
G E A IA

B16

1 C P2 999 0 1 M
2 C P2 996 140 255
3 M 10 A4

4 M 3
5 I P2 801
6 P2 997 1
7 P 6 P2 996 1
~~8 P2 999 1 2~~

S anning problem



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M AD1	D 30 A 97	N 32
M C K C	P K	
F QAC 2 F I D	C F	
C	☐ P ☐ A ☐ M ☐ E ☒ ☐ P ☐ ☐ ☐ O	

1

11

12 C P5 113 1

2 P

I

C 1 2	C 3		F	
5 113		O C	***Japanese version only*** **Do not change the value**	

C

C 1 2	C 3		F	
5 113		O C		**0: No** 1 K C 2 K C 3 C L 1 4 C L 2
			After installing the optional key counter, this value should be set to "1". ***Settings from 2 to 4 are used in the Japanese version only.***	

RTB Correction

15-May -97

M AD1	D 15 J 97	N ***15B***
OM H AD1 C	P K	
F QAC 2 F I D		
C	☐ ☐ P ☐ A ☐ M ☐ E ☐ ☐ P ☐ ☒ ☐ O	

AD1

F A M

A1935532	F N A193		C M	M OH	M OL	P
D	04	1 16	55DD	178E	3E4F	1 M P
E	05	1 23	FB24	B285	489F	N P 96
F	06	1 31	F96B	F66D	02FE	D P 96
G	07	1 33	5D03	2ECA	2E39	J P 97
H	———	1 35	———	———	———	J ***Prod.'97***
J	———	1 36	———	———	———	J ***Prod.'97***
K	10	1 38	A7FE	FB14	ACEA	F ***Prod.'97***
L	11	1 43	BA4B	536A	66EI	M P 97

F E A M

A1935533	F N A193		C M	M OH	M OL	P
C	103	1 16	B574	E4C1	D0B3	1 M P
D	104	1 23	FC4B	98CE	637D	N P 96
E	105	1 31	OADC	41C5	C917	D P 96
F	107	1 33	4C77	CFF3	7C84	J P 97
G	———	1 35	———	———	———	J ***Prod.'97***
H	———	1 36	———	———	———	J ***Prod.'97***
J	110	1 38	ACCC	2927	8353	F ***Prod.'97***
K	111	1 43	F537	6510	9027	M P 97

* 1 35 1 36 F

F E 2 L M

A6485510(OH) ***A6485511(OL)***	F N A193		C M	M OH	M OL	P
E	***205***	***1.43EU2***	***4BC4***	***DE26H***	***6D9E***	***March Prod.'97***

M AD1	D 15 J 97	N 15B

C	A	E A
AM P5 801	L	K
P2 901 1→ 1800 P2 901 2→ 1800 P2 901 3→ 2500 P2 901 4→ 2500	K	J
A	J	H
D B 1 D P2 911 2 3 L 2 F PC I 1 3	H	G
B A 7 E M F P P4 998 999	G	F
D	G	F
C321	G	F
P2 201	G	F
C921 M A E A	F	E
C101 IP P	F	E
P5 803 N PC D	F	E
M P5 945 P M	F	E
P P	F	E
	F	E
ADF	E	D
A DF	E	D

RTB Correction

15-May-97

M AD1	D 15 D 96	N ***14A***
OM H AD1 FA	P K	
F QAC 2 F I D		
C ☐ ☐ M ☐ P ☐ O	☐ P ☐ E ☐	☐ A ☐ ☒

AD1 F

F A M

A1945581	F N A194		C M	M OH	M OL	M 1H	M 1L	P
C	03	1 23	DD95	CB2A	27F0	BD19	72A5	1 M P
D	04	1 29	E6D7	83C2	E9BD	47BC	7F1A	N P 96
E	05	1 38	EAAE	A99A	5C74	919A	5A3A	D P 96
F	***06***	***1.48***	***5029***	***5D2A***	***E457***	***1FF3***	***4ED2***	***March Prod.'97***
G	***07***	***1.58***	***2AEF***	***27EO***	***FD88***	***286A***	***E367***	***May Prod.'97***

F E A M

A1945582	F N A194		C M	M OH	M OL	M 1H	M 1L	P
B	02	1 23	3A44	0A20	FC8A	691F	FEBA	1 M P
C	03	1 29	3270	D0F9	39CD	F1E6	19A3	N P 96
D	04	1 38	3745	FA2F	B98C	C966	E8B9	D P 96
E	***05***	***1.48***	***3745***	***FA2F***	***B98C***	***C966***	***E8B9***	***March Prod.'97***
F	***06***	***1.58***	***8D00***	***FFBE***	***C502***	***1BB4***	***55FE***	***May Prod.'97***

M AD1	D 15 D 96	N 14A

F E 2 L M

A1945585	F N		C M	M OH	M OL	M 1H	M 1L	P
A	***01***	***1.38***	***F398***	***E170***	***B392***	***56E5***	***EB06***	***December Prod.'97***
B	***02***	***1.48***	***E08A***	***B674***	***46C1***	***DDFC***	***29C9***	***March Prod.'97***
C	***03***	***1.58***	***5494***	***87A5***	***28B5***	***B595***	***F1DF***	***May Prod.'97***

		E A IA	E 2
The Two-in-one Function from HLT to LT size paper is not working.	***G***	***F***	***C***
New System Switch ***When closed network is enabled and the ID is not programmed, all reception is disabled (this is a specification). A System Switch has been added to modify this.*** ***Switch 1E Bit 4. When closed network is turned on and the ID is not set:*** ***0: Closed network is not available.*** ***1: Only transmission is available.***	***G***	***F***	***C***
New System Switch ***The display of the remote terminal ID at Alredial:*** ***Switch 1E Bit 5*** ***0: RTI/CSI is displayed.*** ***1: The input Fax Number is displayed.***	***G***	***F***	***C***
LCT and duplex tray are supported.	***G***	***F***	***C***
New HDD is supported.	***G***	***F***	***C***
NEST card option is supported.	***G***	***F***	***C***
In the G3or G4 receiving mode, when the memory is full at the first block of any page, a part of the previous page is missing.	***F***	***E***	***B***
Receiving error in G4 mode ***When it is waiting for RSSP (or RSSN) after sending CONN,*** ***the machine displays "communication error" if DISC comes.***	***F***	***E***	***B***
The periodical auto service call function does not work.	***F***	***E***	***B***
For Canada only ***The number of redials in Canada is changed to meet the CS-03 standard.*** ***System switch OF*** ***The setting for Canada (10h) is added. If the above switch is set to 10h, the number of redials (Communication switch 10) is set to 02h.***		***E***	***B***

		E A IA	E 2
For the Netherlands only ***Marketing Requirements*** ***1. Dialing method Default setting: PD DTMF (User switch 1A/bit 0.1 0.1)*** ***2. Default setting of Transmision mode: Memory Transmission Immediate Transmision (User switch 00/bit 6 1)*** ***3. International Access code : 00 FF***		***E***	***B***
For Austria only ***Marketing Reguirements*** ***1. Dialing method Default setting: PD DTMF (User switch 1A/bit 0.1 0.1)*** ***2. Default setting of Transmission mode : Memory Transmission*** ***Immediate Transmission (User switch 00 bit 6 1)*** ***3. Number of redials : 5 10 (Communication switch 10/bit 0-4)*** ***4. Redial interval in Memory Transmission :*** ***5min. 1min. (Communication switch 12/bit 0-7)***		***E***	***B***
For New Zealand only ***The ringing detection time is changed.*** ***NCU parameters 07 & 0.8 : 010 015***		***E***	***B***
For Australia only ***Tx time of 2100Hz is changed from 2.7s to 3.5s.***		***E***	***B***
I H M I ADF	E	D	A
I I H	E	D	A
	E	D	A
	E	——	——

M AD1 E P C	D 30 J 97	N 33
AD1 E P C L	P A N	
F QAC 2 F I D		
C	☐ P A ☐ M E ☐ P ☒ O L I	

P C AD1 E

B AD1 AD1 E

AD1 E
AD1 I AD1
AD1 E LC
LC 8 1 2 11 L A4 L
AD1 AD1 E
I AD1 AD1 E

AD1

P H D
N I C P D

D

I	AD1 C	AD1 E C
M C	A643	A805
M P	20	25
F		
C	62 616 MH	79 314 MH
LC F	N N 1	

N 1
LC
AD1 AD1 E I
LC

M AD1 D AD330	D 1 J 97	N 34
P	P K H	
F QAC 2 F I D		
C ☐ ☐ M ☐ P ☒ O	☐ P ☐ E ☐	☐ A ☐ ☐

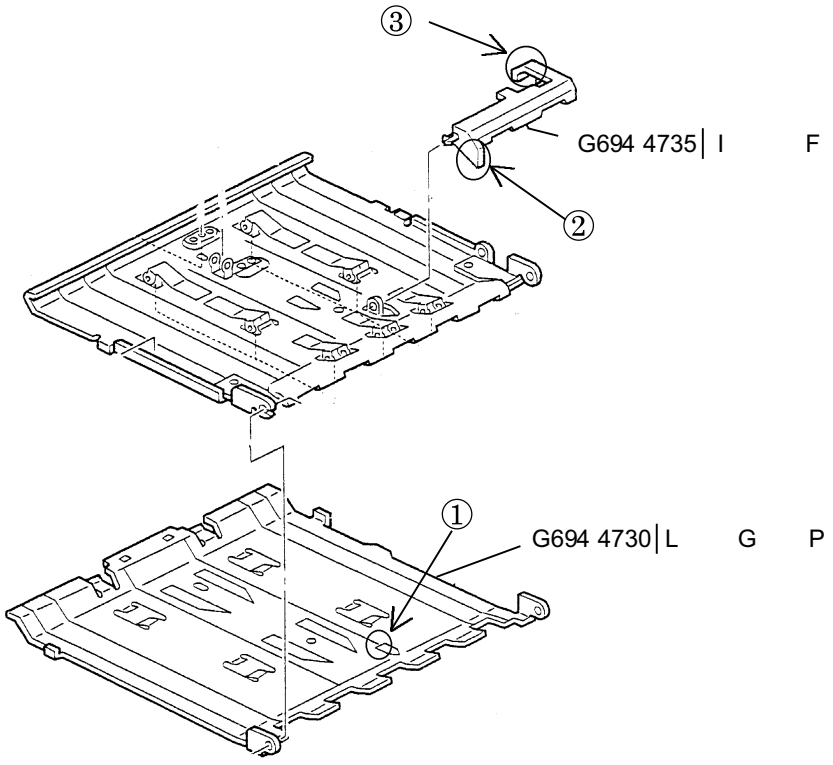
SYMPTOM

CAUSE

I L G P G6944730 ①
② I F G6944735

③ I F P
A 020075 I F

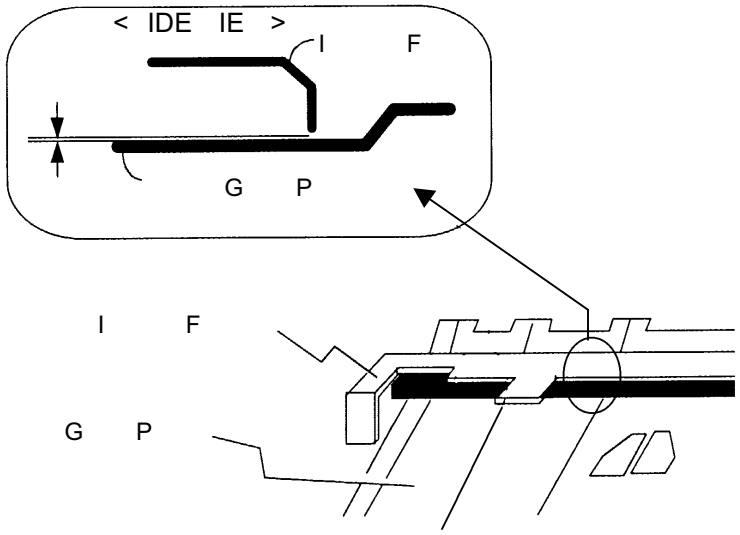
I F P



F 1

SOLUTION

I F G P
L G P I F
G P L G P I F



F 2

ACTIION REQUIRED

P L G P
1 C I F G P
2
3 G P
4 L G P
5 A L G P *
6 A G P
7 A

* How to modify the Lower Guide Plate.

1 P

2 P L G P

3 P
Caution: I L G P

4 P L G P

5 C I

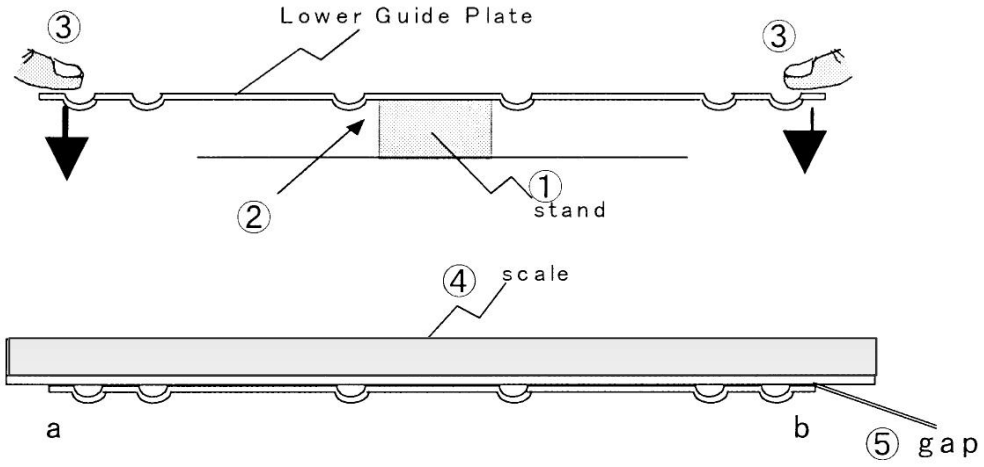


Figure3

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MB Correction

Reissue date: **30-Nov-97**

The items in bold italic have been corrected or added.

Model: AD1-Printer Type 250	Date: 23-Jul-97	No: 35B
Subject: Firmware and Software History	Prepared by: K.Ugaeri	
From: QAC Field Information Dept.		

Classification:			
	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☒ Retrofit information
	☐ Other ( )		

A. Firmware for Controller Type 250.

1. History and Checksum List.

Ver	Check Sum		Released on
	U23	U24	
1.35	***3301***	***1D08***	***'97.9.30***
1.32	***8FD5***	***3EFD***	***'97.8.26***
1.26	3EC3	64E8	'97.6.10
(1.24)	F38F	AC48	Temporary ('97.5.28)
(1.21)	7A04	AC4F	Temporary ('97.5.20)
1.08	59BA	F0C2	'97.4.2
1.07	901F	6D97	'97.2.2
1.06	5DAD	1E45	'96.12.17
1.03			1st Mass Prod. ('96.12.5)

2.Corrected Symptom

	Ver.
When printing a banner page in a staple job, the banner page is printed incorrectly.	***1.35***
Resource saving on the test page indicate "1219 kbytes allocated of 1219 kbytes available." It should be "0 Kbytes allocated of ..."	
When printing in Raster mode with custom paper size setting, output is incorrect.	
The Line Per Page setting value in the PCL menu was changed after power was switched off/on.	***1.32***
While data is in the print queue, if you press the Job Reset key, some problems may occur.	
While data is in the print queue, either Memory Overflow or Lock Up occured. (Acrobat, Page Maker)	
After printing 300 dpi data, only half of the 600 dpi data is printed out,.	
Image cut off if the previous job was printed using long edge feed (300 dpi) and the current job is printed with short edge feed (300 dpi).	
After printing data for a small paper size, if you print data for a bigger paper size, only data to fill the previous pape size is printed out.	

	Ver.
After printing a job using staple mode, if sending another job which changed the Page Protection Mode from the previous job's setting, sometimes it does not work, and the data stays in the print queue.	***1.32***
When setting User Code, if you send data to print while the LCD shows "Input user code...", it does not work without pressing the offline / online key even if you input the User Code.	
Side-to-side motion of the finisher does not work in the energy save and night timer mode.	1.26
The demo page cannot be printed. (∗This is a problem only for version 1.24)	
Lock Up occurs occasionally while the printing data is being stored on the HDD due to a sector control failure.	
Lock-up when the job reset button is pressed during data storage.	(1.24)
The finisher is supported.	(1.21)
Print overrun because of access time to HDD. The band buffer is increased from 660KB to 4MB. ∗ ∗ If the controller has a HDD, more than 4MB of SIMM memory must be added.	
General Protection Fault during Landscape Printing in Raster mode.	
Output of a Genoa FTS file is different from that of HP (∗ ∗Genoa FTS file).	1.08
Page ordering is wrong. (∗ ∗ For duplex printing, interleave on, and interrupt copying)	
The printer hangs up when printing word data with lines shaded with colors as HP/GL. (∗ Duplex printing, HP/GL mode and colored lines)	1.07
Paper jam in Duplex mode when an A4 size page is printed on A3 paper.	

B. Driver Software for Win 3.1/Win 95

1. History List

Ver	Released on
2.00	***'97.7.9***
1.30	'97.5.19
1.21	'97.4.2
1.10	'97.2.2
1.00	1st Mass Prod.('96.12.5)

2. Corrected Symptom

	Ver.
1) Even if setting True Type Mode to " Down Load as True Type ", it ***is*** output as a bit image. 2) When printing Hound.doc with Win 3.1, a part of the Univers Font was printed incorrectly. 3) When setting B5 Env.in the Bypass Tray, WinPanel shows "Add F4 paper into Bypass Tray." 4) When installing Win95 driver by Add Printer, the help File was not installed.	2.00
The finisher is supported.	1.30
In Raster mode, a part of the graphic data cannot be printed correctly.	1.21
Power Point for Windows 95 cannot print raster Images.	1.10

C. Host Panel for DOS

1.History List

Ver	Released on
1.02	'97.5.25
1.01	'97.4.2
1.00	1st Mass Prod. ('96.12.5)

2. Corrected Symptom

	Ver.
Profile which has the Host Panel setting information in Duplex mode cannot be opened correctly.	1.02
TBA (To Be Announced)	1.01

MB Corre tion

22 Aug 97

M AD1 P P 330	D 23 J 97	N 36B
N	P K	
F QAC 1 F I D		
C ☐ ☐ M ☐ P ☐ O	☐ P ☐ E ☐	☒ A ☐ ☐

S MPTOM

N AF02 0377

CAUS

SOLUTIO

L

∗O

March production '97.

Caution

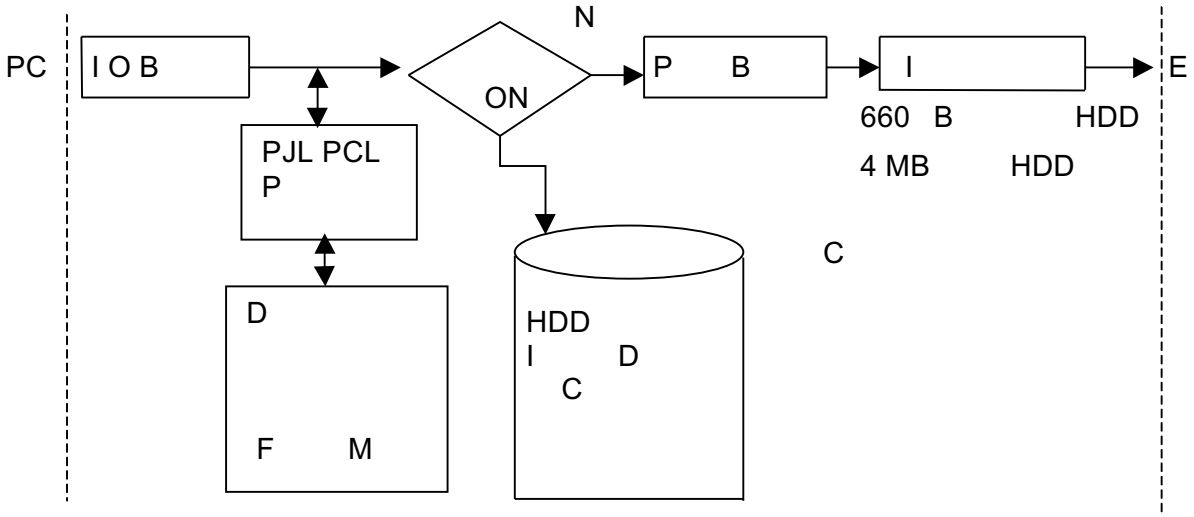
Do not use a chemical oil. When this type of oil is used, the same problem will occur again.

Use a machine oil (mineral oil).

M AD1 P C 250	D 23 J 97	N 37
P O M O P	P K	
F QAC 2 F I D		
C ☒ ☐ M ☐ P ☐ O	☐ P ☐ E ☐	☐ A ☐ ☐

B P O
M O 250

1 D



I O B

PCL PJL

M F M

H

I

HDD

I HDD

HDD IMM 4MB 1 21

M AD1 P C 250	D 23 J 97	N 37

2 M O M

I
M

IMM 8 MB

3 P O M

I

I

C 1 HDD A

HDD
HDD 1 21
IMM 4 MB 4 MB
HDD 1 21
A

P A4 L

C 2 HDD E

HDD
HDD
HDD
HDD OJ
HDD

M AD1 P C 250	D 23 J 97	N 37

C 3 HDD

B

1 26

>I HDD

F 1 26

D 1 30

N HDD

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RTB Corre tion

22 Aug 97

M AD1	D 15 J 97	N ***15D***
OM H AD1 C	P K	
F QAC 2 F I D		
C ☐ ☐ M ☐ P ☐ O	☐ P ☐ E ☐	☐ A ☐ ☒

AD1

F A M

A1935532	F N A193		C M	M OH	M OL	P
D	04	1 16	55DD	178E	3E4F	1 M P
E	05	1 23	FB24	B285	489F	N P 96
F	06	1 31	F96B	F66D	02FE	D P 96
G	07	1 33	5D03	2ECA	2E39	J P 97
H	———	1 35	———	———	———	J P 97
J	———	1 36	———	———	———	J P 97
K	10	1 38	A7FE	FB14	ACEA	F P 97
L	11	1 43	BA4B	536A	66EI	M P 97
M	***11A***	***1.48***	***F9D6***	***3029***	***C9AD***	***May Prod.'97***
N	***12***	***1.54***	***7413***	***3D1A***	***36F9***	***June Prod.'97***

F E A M

A1935533	F N A193		C M	M OH	M OL	P
C	103	1 16	B574	E4C1	D0B3	1 M P
D	104	1 23	FC4B	98CE	637D	N P 96
E	105	1 31	OADC	41C5	C917	D P 96
F	107	1 33	4C77	CFF3	7C84	J P 97
G	———	1 35	———	———	———	J P 97
H	———	1 36	———	———	———	J P 97
J	110	1 38	ACCC	2927	8353	F P 97
K	111	1 43	F537	6510	9027	M P 97
L	***111A***	***1.48***	***7218***	***5558***	***1CC0***	***May Prod.'97***
M	***112***	***1.54***	***AAA8***	***7837***	***3271***	***June Prod.'97***

* 1 35 1 36

M AD1	D 15 J 97	N ***15D***

F E 2 L

A6485510 ***OL*** A6485511 ***OH***	F N A193		C M	M OH	M OL
E	205	1 43E 2	4BC4	DE26H	6D9E
F	***205A***	***1.48EU2***	***09F5***	***CC25***	***3DD0***
G	***206***	***1.54EU2***	***E768***	***F05C***	***F70C***
H	***208***	***1.57EU2***	***E765***	***F056***	***F70F***

F E 3 L

A6485514 (OL) ***A6485515(OH)***	F N A193		C M	M OH	M OL
	301	***1.57EU3***	***9DBB***	***C908***	***D4B3***

F E 4 L

A6485516 (OL) ***A6485517(OH)***	F N A193		C M	M OH	M OL
	401	***1.57EU4***	***1DF0***	***CA60***	***5390***

M AD1	D 15 J 97	N *15D*

C	A	E A	E 2
New SP Mode ***SP-006-4: ARDF Main-Scan Magnification for the rear side.***	***N***	***M***	***G***
Specification ***When the trays do not have the same size of paper in different orientations, the machine continues to print using the sort function even if the Rotate Sort function is selected.(The previous version software stops the copy job when one of the trays is empty.)***	***N***	***M***	***G***
The stapler may not work when the printer feeds out a stapled copy while feeding out paper into the finisher in copy or fax mode.	***N***	***M***	***G***
When 2 sheets of paper remain in the Duplex Unit and the printer prints in duplex mode, the printer image will be printed on the rear side of the remaining paper.	***N***	***M***	***G***
SP5-808: The 3 languages cannot be selected with the previous software version.	—	***M***	***G***
If a duplex copy is made with the ADF, Duplex Unit and 12M Memory and the original is jammed, the jammed original cannot be copied correctly during recovery.	***M***	***L***	***F***
Paper jam when paper is fed from the 3rd tray immediately after feeding the paper from the 4th tray (A jam or Y jam) with the following paper types. **** 3rd Tray has paper less than 288mm length (A4 ▯)*** ***4th Tray has paper 289mm to 401mm length (A4 ▭)***	***M***	***L***	***F***

M AD1	D 15 J 97	N 15D

A1935532	A193-10	A193-15	A193-17	A193-55
E	A10611001~	6A76100001~	A7226100001~	L5026110066~
F	—	6A76120001~	A7226110154~	L5026120516~
G	A107010001~	6A76120026~	A7226120149~	L5027011010~
H	—	6A77020001~	A7227010410~	L5027021541~
J	A107020001~	6A77020241~	—	L5027021563~
K	A107030001~	6A77020438~	A7227020001~	L5027031945~
L	A107040001~	6A77040001~	—	L5027042480~
M	A107050001~	6A77050001~	A7227050001~	L5027053186~
N	A107060036~	6A77060001~	A7227060001~	L5027063876~

A1935533	A193-22	A193-26	A193-27	A193-29	A193-65
D	AH26110001~	3L01160001~	A7226101023~	A7226101492~	L5026110271~
E	AH26120001~	3L01260001~	A7226111703~	A7226122087~	L5026120780~
F	AH27010001~	3L00170001~	A7226121305~	A7227012021~	L5027011216~
G	AH27020001~	3L00270001~	—	—	L5027011424~
H	AH27020951~	—	A7227021026~	A7227021345~	L5027021685~
J	AH27020967~	3L00370001~	A7227030441~	A7227031491~	L5027032180~
K	TBA	3L00470001~	TBA	TBA	TBA
L	AH27040251~	3L00570001~	A7227042629~	A7227052269~	L5027053561~
M	AH27060960~	3L00670001~	A7227060651~	A7227062571~	L5027064111~

RTB Corre tion

31 Aug 97

M AD1	D 15 J 97	N ***15E***
OM H AD1 C	P K	
F QAC 2 F I D		

C	☐	☐ P	☐ A
	☐ M	☐ E	☐
	☐ P	☐	☒
	☐ O		

AD1

F A M

A1935532	F N A193		C M	M OH	M OL	P
D	04	1 16	55DD	178E	3E4F	1 M P
E	05	1 23	FB24	B285	489F	N P 96
F	06	1 31	F96B	F66D	02FE	D P 96
G	07	1 33	5D03	2ECA	2E39	J P 97
H	———	1 35	———	———	———	J P 97
J	———	1 36	———	———	———	J P 97
K	10	1 38	A7FE	FB14	ACEA	F P 97
L	11	1 43	BA4B	536A	66EI	M P 97
M	11A	1 48	F9D6	3029	C9AD	M P 97
N	12	1 54	7413	3D1A	36F9	J P 97
P	***13***	***1.60***	***3042***	***A726***	***891C***	***August Prod.'97***
R	***14***	***1.62***	***5B56***	***CF0D***	***8C49***	***September Prod.'97***

F E A M

A1935533	F N A193		C M	M OH	M OL	P
C	103	1 16	B574	E4C1	D0B3	1 M P
D	104	1 23	FC4B	98CE	637D	N P 96
E	105	1 31	OADC	41C5	C917	D P 96
F	107	1 33	4C77	CFF3	7C84	J P 97
G	———	1 35	———	———	———	J P 97
H	———	1 36	———	———	———	J P 97
J	110	1 38	ACCC	2927	8353	F P 97
K	111	1 43	F537	6510	9027	M P 97
L	111A	1 48	7218	5558	1CC0	M P 97
M	112	1 54	AAA8	7837	3271	J P 97
N	***113***	***1.60***	***1FE3***	***AEE1***	***7102***	***August Prod.'97***
P	***114***	***1.62***	***794C***	***90BE***	***E88E***	***September Prod.'97***

* 1 35 1 36 F

M AD1	D 15 J 97	N ***15E***

F E 2 L

A6485510 OL A6485511 OH	F N A193		C M	M OH	M OL
E	205	1 43E 2	4BC4	DE26H	6D9E
F	205A	1 48E 2	09F5	CC25	3DD0
G	206	1 54E 2	E768	F05C	F70C
H	208	1 57E 2	E765	F056	F70F
J	***209***	***1.60EU2***	***AE02***	***2277***	***8B8B***
K	***210***	***1.62EU2***	***CB8A***	***0ACC***	***C0BE***

F E 3 L

A6485514 OL A6485515 OH	F N A193		C M	M OH	M OL
	301	1 57E 3	9DBB	C908	D4B3
A	***302***	***1.60EU3***	***390A***	***FD07***	***3C03***
B	***303***	***1.62EU3***	***C69E***	***D5E3***	***F0BB***

F E 4 L

A6485516 OL A6485517 OH	F N A193		C M	M OH	M OL
	401	1 57E 4	1DF0	CA60	5390
A	***402***	***1.60EU4***	***4490***	***FDEF***	***46A1***
B	***403***	***1.62EU4***	***A30C***	***D9E5***	***C927***

(For China)

A6485512 (OL) ***A6485513(OH)***	F N ***(A193CHxx)***		C M	M OH	M OL
E	***04***	***1.62CH***	***B020***	***B056***	***FFCA***

F

	F N		C M	M OH	M OL
A1935534	***(A193TWxx)***				
B	***03***	***1.62TW***	***C05F***	***3BA0***	***94BF***

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M AD1	D 15 J 97	N *15E*

C	A	E A	E 2	E 3	E 4	CHN	N
For the USA only ***A new SP mode is added.*** ***SP5-950: LG size paper detection in the by pass tray.*** **** When this function is selected and LT▭ size paper is put in the by-pass tray, the machine detects it as LG ▭ size paper.***	***R***	—	—	—	—	—	—
For the USA only ***Compliance with the Energy Star standard.***	***R***	—	—	—	—	—	—
After a fax transmission using the ARDF with the stamper, the registration of the 1st sheet copied using the ARDF is delayed.	***R***	***P***	***K***	***B***	***B***	***E***	***B***
A new SP mode is added. ***SP5-945:1= When one of the trays is empty, the paper end indicator (red LED) lights.***	***P***	***N***	***J***	***A***	***A***	***D***	***A***
The DF Jam display is cleared by lifting the DF up and down	***P***	***N***	***J***	***A***	***A***	***D***	***A***

M AD1	D 15 J 97	N **15**

A1935532	A193 10	A193 15	A193 17	A193 55
E	A10611001~	6A76100001~	A7226100001~	L5026110066~
F	—	6A76120001~	A7226110154~	L5026120516~
G	A107010001~	6A76120026~	A7226120149~	L5027011010~
H	—	6A77020001~	A7227010410~	L5027021541~
J	A107020001~	6A77020241~	—	L5027021563~
K	A107030001~	6A77020438~	A7227020001~	L5027031945~
L	A107040001~	6A77040001~	—	L5027042480~
M	A107050001~	6A77050001~	A7227050001~	L5027053186~
N	A107060036~	6A77060001~	A7227060001~	L5027063876~
P	***TBA***	***TBA***	***TBA***	***TBA***
R	***TBA***	***TBA***	***TBA***	***TBA***

A1935533	***A193-22***	***A193-26***	***A193-27***	***A193-29***	***A193-65***
D	***AH26110001~***	***3L01160001~***	***A7226101023~***	***A7226101492~***	***L5026110271~***
E	***AH26120001~***	***3L01260001~***	***A7226111703~***	***A7226122087~***	***L5026120780~***
F	***AH27010001~***	***3L00170001~***	***A7226121305~***	***A7227012021~***	***L5027011216~***
G	***AH27020001~***	***3L00270001~***	—	—	***L5027011424~***
H	***AH27020951~***	—	***A7227021026~***	***A7227021345~***	***L5027021685~***
J	***AH27020967~***	***3L00370001~***	***A7227030441~***	***A7227031491~***	***L5027032180~***
K	***TBA***	***3L00470001~***	***TBA***	***TBA***	***TBA***
L	***AH27040251~***	***3L00570001~***	***A7227042629~***	***A7227052269~***	***L5027053561~***
M	***AH27060960~***	***3L00670001~***	***A7227060651~***	***A7227062571~***	***L5027064111~***
N	***TBA***	***TBA***	***TBA***	***TBA***	***TBA***
P	***TBA***	***TBA***	***TBA***	***TBA***	***TBA***

RTB Corre tion

22 Aug 97

I

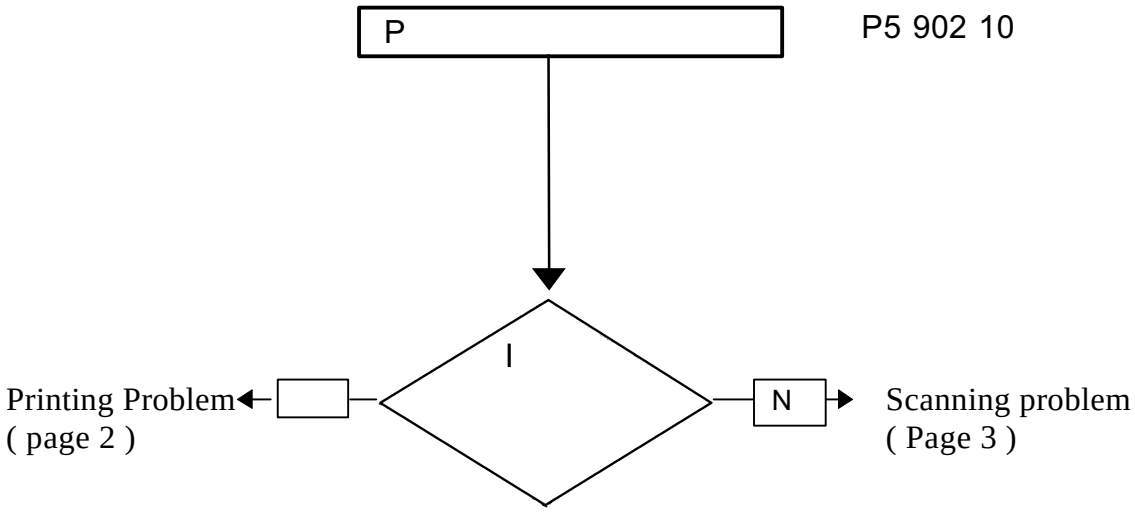
M AD1		D 30 A 97	N *031C*
C Q D B		P K	
F QAC 2 F I D			
C	☒ ☐ M ☐ P ☐ O	☐ P ☐ E ☐	☐ A ☐ ☐

S MPTOM

D

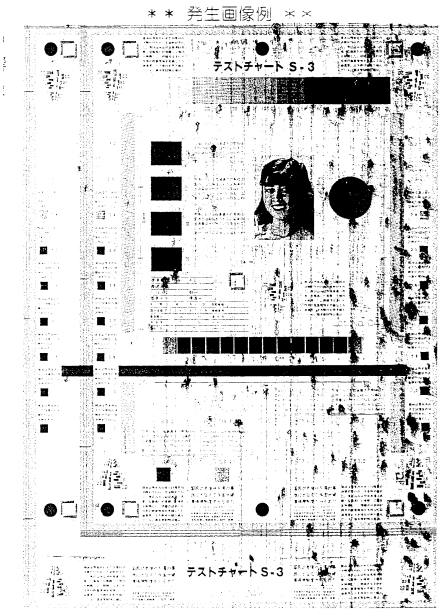
A tion re uired

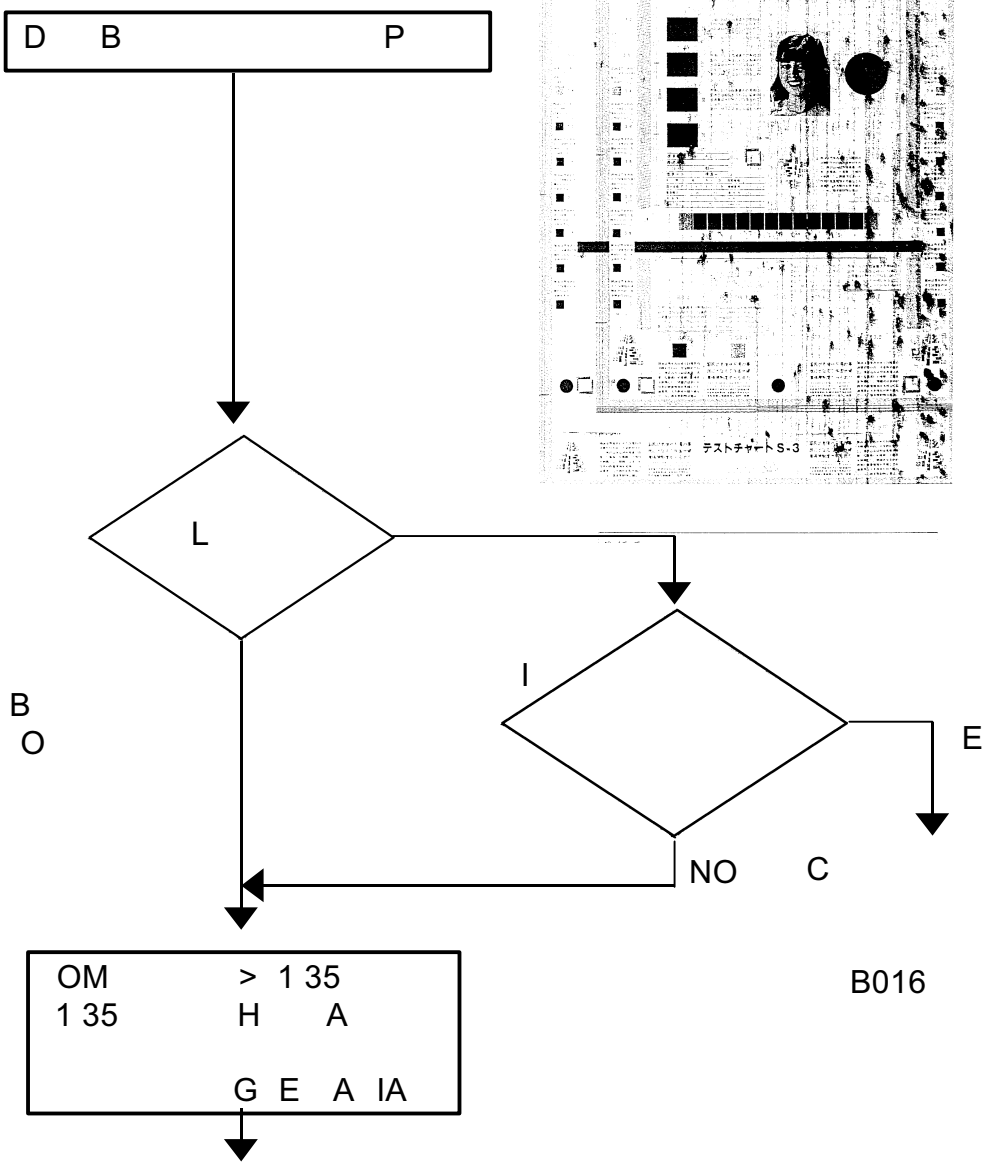
F



M AD1	D 30 A 97	N *031C*

Printing Problem





* 2 P2 911
1 C P2 999 0 1 M
2 C P2 996 140 255
*
3 M 10 A4

4 M 3
5 I P2 801
* **hen SC393 is displayed the initiali ation is not ompleted. In this ase go to step (1).**
6 P2 997 1
7 P 6 P2 996 1
~~8 P2 999 1 2~~ ***(9) End***

(10) Put "200" into SP2-996-1.
* **The 2 is an approximate V ont alue. The exa t V ont alue an be al ulated by the pro edure sho n on the next page.**
(11) When the toner density is light, change the toner density to 3 or 4 using SP2-911.
(12) End.

Referen e H

1 P2 220 D LCD
2 M
3 2± 0 2

D	0 1	0 2	0 3	0 4	0 5	0 6	0 7	0 8
	160	165	170	175	180	185	190	195

*

4 P P2 996 1

1

255 2 D O ÷0 2 10

* D 2 D

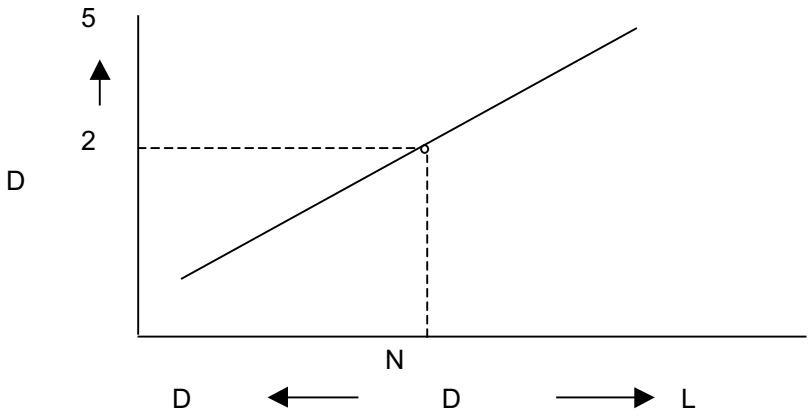
* D 0 2

10

xample

1 D 0 5
2 D 2 1 5
3 E 255 1 5÷0 2 10 180

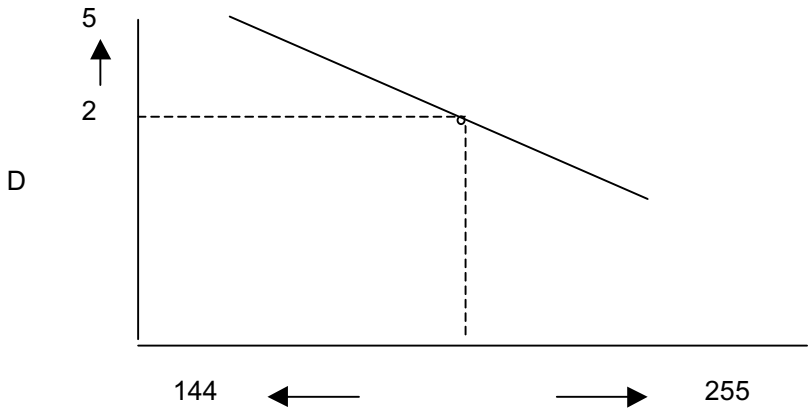
2 D D



* D 2

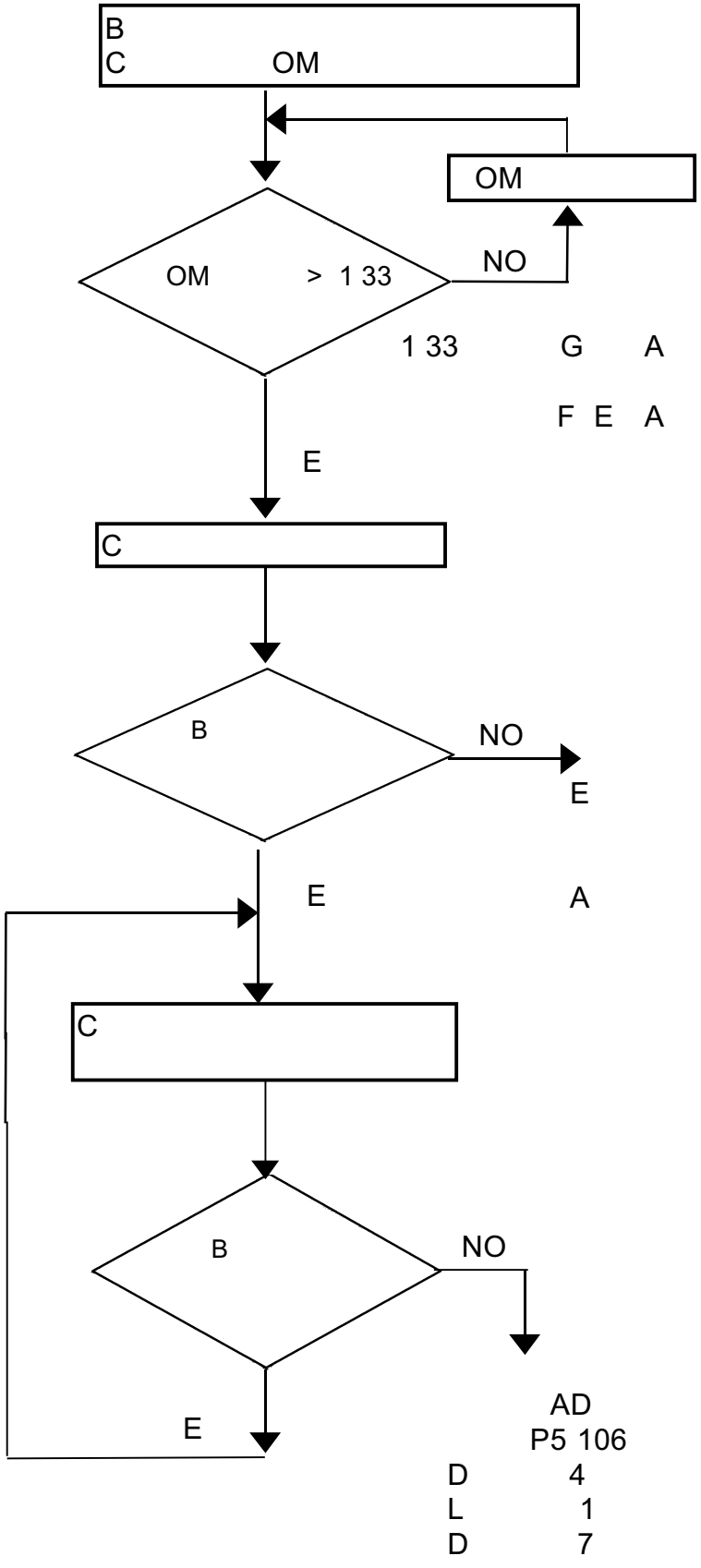
M AD1	D 30 A 97	N 031C

3 D



* D

S anning problem



Model: FX4, FX6, FX6MK2, FX6CD, FX7, LX7, LSO, AD1	Date: 31-Aug-97	No: 005
Subject: Novell Nest Autoroute Function	Prepared by: S.Yoshio	
From: 2nd Technical Support Section		

Classification:			
	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☒ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

The NEST card has been released for Nest Autoroute function in fax machines and for fax units in the AD series.

This technical bulletin contains the revisions to the Nest Autoroute service manual. Procedures for reading and writing user-programmed data by RDS have been added. Only the Installation section was changed.

For details on the models that can use the NEST card, please check the product launch information for the models.

RC	RE	ASIA	
✶	✶	✶	

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2.2. INSTALLING THE NEST CARD

⚠ CAUTION

Before installing the NEST card,do the following:
1.Print out all messages stored in the memory.
2.Print out the lists of user – programmed items and the system parameter list.

2.2.1. Function Upgrade Card Type 140 Plus Novell® NEST™

Note

- **The following installation procedure initializes (erases) all the user-programmed data stored in the card, if the Function Upgrade Card already installed in the machine is replaced with a NEST card.**

Installation Procedure (Without a Function Upgrade Card)

- **Turn off the main switch.**
- **Install the battery on the NEST card.**
- **Turn on the battery switch.**
- **Install the NEST card in the slot.**
- **Turn on the main switch.**
- **Print the system parameter list and make sure that "NEST" is listed as an option on the list.**

Installation Procedure (Replacing a Function Upgrade Card with the NEST card)

- **Read and back-up the user-programmed data stored in the Function Upgrade Card with RDS.**
- **Turn off the main switch.**
- **Remove the Function Upgrade Card from the slot.**
- **Install the battery on the NEST card and turn on the battery switch.**
- **Install the NEST card in the slot.**
- **Turn on the main switch.**
- **Print the system parameter list and make sure that "NEST" is listed as an option on the list.**
- **Write the backed-up data to the NEST card.**

Model: FX4, FX6, FX6MK2, FX6CD, FX7, LX7, LSO, AD1	Date: 31-Aug-97	No: 005

May 20th,1997

INSTALLATION
INSTALLING THE NEST CARD

When the NEST card is replaced with another NEST card, do the following so the machine can recognize the new card.

1. **Turn off the main switch**
2. **Remove the old card.**
3. **Turn on the machine without the card and turn off.**
4. **Install the new card.**
5. **Turn on the main switch.**

⚠ CAUTION

The IC card contains a lithium battery.
The danger of explosion exists if a battery of this type is incorrectly replaced. Replace only with the same or an equivalent type recommended by the manufacturer. Discard used batteries in accordance with the manufacturer's instructions.

2.2.2. Feature Expander Type 100 2M Plus Novell NEST

Note

- The following installation procedure initializes (erases) all the data stored in the card, if the Feature Expander already installed in the machine is replaced with a NEST card.

Installation Procedure

- Turn off the main switch.
- Install the NEST card in the slot in the machine.
- Turn on the main switch.
- Print the system parameter list and make sure that “NEST” is listed as an option on the list.

When the NEST card is replaced with another NEST card, do the following so the machine can recognize the new card.

1. Turn off the main switch.
2. Remove the old card.
3. Turn on the machine without the card and then turn off.
4. Install the new card.
5. Turn on the main switch.

Model: AD-1Printer Controller Type 250	Date: 5-Sep-97	No: 38
Subject: New models	Prepared by: K.Ugaeri	
From: QAC 2nd Field Information Dept.		

Classification:			
	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☒ Retrofit information
	☐ Other ( )		

The AD1 Printer Type 250 Controllers corresponding to the finisher have been newly launched. These models includes the firmwave version 1.26 and the driver version 2.00.

The new product codes are:

For USA

1. A643-07 for Ricoh (Previous model : A643-00)
2. A643-17 for Gestetner (Previous model : A643-10)
3. A643-18 for Savin (Previous model : A643-20)
4. A643-19 for Lanier (Previous model : A643-30)

For Europe

5. A643-08 ALL Previous models: A643-01

When installing a controller on an AD-1 with a finisher, use these models.

Note: The previous models also can be used by changing the firmware to ver 1.26 or higher, and the driver to ver 2.00 or higher.

Model: AD1-Printer Controller Type250			Date: 5-Sep-97	No: 39
Subject: All Black Printout			Prepared by: K.Ugaeri	
From: QAC 1st Field Information Dept.				
Classification:	☐ Troubleshooting	☐ Part information	☐ Action required	
	☐ Mechanical	☐ Electrical	☐ Service manual revision	
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information	
	☐ Other ( )			

SYMPTOM

All black printout in copy, fax, and printer mode.

CAUSE

Defective controller board; the image data signal from the controller is a constant " Low " (black).

The data signals from copy, fax, and the printer go through same OR processing, so all printed images become black.

SOLUTION

Change the controller board.

RTB Correction

Reissue date: **5-Sep-97**

The items in bold italic have been corrected or added.

Model: AD1	Date: 15-Dec-96	No: ***14B***
Subject: ROM History (AD1-FAX option)	Prepared by: K.Ugaeri	
From: QAC 2nd Field Information Dept.		

Classification:

- ☐ Troubleshooting
- ☐ Part information
- ☐ Action required
- ☐ Mechanical
- ☐ Electrical
- ☐ Service manual revision
- ☐ Paper path
- ☐ Transmit/receive
- ☒ Retrofit information
- ☐ Other ( )

We inform you of the firmware history for AD1-Fax option.

(For USA Models)

A1945581	File No. (A194uxx)	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
C	03	1.23	DD95	CB2A	27F0	BD19	72A5	1st Mass Prod.
D	04	1.29	E6D7	83C2	E9BD	47BC	7F1A	November Prod.'96
E	05	1.38	EAAE	A99A	5C74	919A	5A3A	December Prod.'96
F	06	1.48	5029	5D2A	E457	1FF3	4ED2	March Prod.'97
G	07	1.58	2AEF	27EO	FD88	286A	E367	May Prod.'97
H	***08***	***1.77***	***43BO***	***3357***	***84BC***	***EAA2***	***C5F4***	***August Prod.'97***

(For European/Asian Models)

A1945582	File No. (A194exx)	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
B	02	1.23	3A44	0A20	FC8A	691F	FEBA	1st Mass Prod.
C	03	1.29	3270	D0F9	39CD	F1E6	19A3	November Prod.'96
D	04	1.38	3745	FA2F	B98C	C966	E8B9	December Prod.'96
E	05	1.48	3745	FA2F	B98C	C966	E8B9	March Prod.'97
F	06	1.58	8D00	FFBE	C502	1BB4	55FE	May Prod.'97
(G)	***07t***	***1.78***	***C19B***	***E4F1***	***FF0B***	***9B9F***	***3290***	***Temporary***
G	***07***	***1.79***	***C2A4***	***E4F2***	***FF14***	***9B9F***	***3290***	***August Prod.'97***

(For European 2nd Language)

A1945585	File No.	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
A	01	1.38	F398	E170	B392	56E5	EB06	December Prod.'97
B	02	1.48	E08A	B674	46C1	DDFC	29C9	March Prod.'97
C	03	1.58	5494	87A5	28B5	B595	F1DF	May Prod.'97
(D)	***04t***	***1.78***	***77E2***	***2CD4***	***372E***	***23DD***	***8FB4***	***Temporary***
D	***04***	***1.79***	***3D4C***	***2F88***	***6AFD***	***121C***	***2E4F***	***August Prod.'97***

(For China)

A194	File No. A194cxx	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
B	***02***	***1.77***	***AB3E***	***C008***	***DDA3***	***7D7E***	***479B***	***August Prod.'97***

(For Taiwan)

A194	File No. A194txx	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
C	***03***	***1.77***	***D672***	***7BEE***	***6E00***	***46A5***	***D572***	***August Prod.'97***

Model: AD1	Date: 15-Dec-96	No: ***14B***

Symptom corrected	US	EU/ ASIA	EU2	China	Taiwan
For PTT Approval ***1. Dial pulse signal from the other terminal was detected as a ringing signal. (France)*** ***2. Busy tone sometimes cannot be detected. This is solved by using two frequencies , 400 Hz and 900 Hz. (New Zealand)*** ***3. Interval between the dial pulses is out of specification.*** ***∗Specification : 1000 ms. (New Zealand)***	—	***G***	***D***	***B***	***C***
Received files cannot be printed out from the HDD. When a small amount of data (less than 2K Bytes) is received and the communication is finished before writing to the HDD is finished, the data is not completely transferred to the HDD.	***H***	***G***	***D***	***B***	***C***
In ISDN G3 mode, when a call comes from a PSTN G3 machine, the fax number stored in the machine's own Quick Dial 01 is displayed for a few seconds instead of the called terminal identification.	***H***	***G***	***D***	***B***	***C***
Only for the Netherlands ***Dial Tone cannot be detected when the dial tone frequency lower limit*** ***(PSTN: Address 480406 ~ 7, PABX: Address 480419 ~ A)*** ***is less than 255 Hz.*** ***This problem happens with ver 1.29 or higher.***	***H***	***(G)***	***(D)***	***B***	***C***

Model: AD1-E	Date: 15-Oct-97	No: 40
Subject: ROM History (AD1-E Copy Version)	Prepared by: K.Ugaeri	
From: QAC Field Information Dept.		

Classification:

☐ Troubleshooting	☐ Part information	☐ Action required
☐ Mechanical	☐ Electrical	☐ Service manual revision
☐ Paper path	☐ Transmit/receive	☒ Retrofit information
☐ Other ( )		

We hereby inform you of firmware history for the AD1-E. (Copy)

For USA Models

A2245532	File No. (A224uxx)	Version	Total C.SUM	SUM(OH)	SUM(OH)	Production
D	01	1.18	7766	6521	1245	1st Mass Prod.
E	02	1.20	01F7	98CE	6929	June Prod. '97
F	03	1.24	D441	9943	3AFE	August Prod. '97
H	04	1.26	C879	5895	6FE4	September Prod. '97

For European/Asian Models

A2245533	File No. (A224exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)	Production
B	101	1.20EU1	46A8	65C6	E0E2	1st Mass Prod.
C	102	1.24EU1	F12D	8333	6DFE	August Prod. '97
D	103	1.26EU1	6693	55DF	10B4	September Prod. '97

For European 2nd Language

A8105510(OL) A8105511(OH)	File No. (A224exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
A	202	1.24EU2	9FB1	FAE8	A4C9
B	203	1.26EU2	F29A	D4BF	1DDB

For European 3rd Language

A8105514(OL) A8105515(OH)	File No. (A224exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
A	302	1.24EU3	2C91	F73A	3557
B	303	1.26EU3	649F	D770	8D2F

For European 4th Language

A8105516(OL) A8105517(OH)	File No. (A224exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
A	402	1.24EU4	7A6A	F8BC	81AE
B	403	1.26EU4	E7F9	DA9F	0D5A

For the China Version

A8105512(OL) A8105513(OH)	File No. (A224CHxx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
–	–	–	–	–	–

For the Taiwan Version

A2245534	File No. (A224TWxx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
–	–	–	–	–	–

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Model: AD1-E	Date: 15-Oct-97	No: 40

Symptom Corrected	USA	EU/ Asia	EU2	EU3	EU4	CHN	TWN
For the USA only A new SP mode is added. SP5-950: LG size paper detection on the by pass tray. * When this function is selected and LT ▭ size is inserted in the by-pass tray, the machine detects it as LG▭ size paper.	H	_	_	_	_	_	_
For the USA only To meet the Energy Star standard.	H	_	_	_	_	_	_
After fax transmission using the ARDF with a stamper, the registration of the 1st copied paper by the ARDF is delayed.	H	D	B	B	B	_	_
A new SP has been added. SP5-949:1= When one of the trays is empty, the paper end indicator (red LED) lights.	F	C	A	A	A	_	_
The DF Jam display is cleared by lifting the DF up and down	F	C	A	A	A	_	_
New SP Mode SP6-006-4: ARDF Main-Scan Registration for the rear side.	E						
Specification When the trays do not have paper of the same size in different orientations, the machine continues to print using the sort function even if Rotate Sort is selected. (The previous software version stops the copy job when one of the trays is empty)	E						
The stapler may not work when the printer feeds out a stapled copy while feeding out the paper into the finisher in copy or fax mode.	E						
When two sheets of paper remain in the Duplex Unit and the printer prints in duplex mode, the printout will be made on the rear side of the paper remaining in the duplex unit.	E						

A2245532	A224-10	A224-15	A224-17	A22455
E	AK87070001~	9A37060001~	A7427060001~	L027080001~
F	AK87080023~	9A37080001~	A7427080001~	_
H	AK87090001~	9A37090001~	A7427090001~	L027090031~

A2245533	A224-22	A224-26	A224-27	A224-29	A224-65
C	AK97070543~	3P30870001~	A7427080601~	A7427081501~	_
D	AK97090001~	3P30970001~	A7427090305~	A7427091035~	L0247090216~

Model: AD1-E	Date: 15-Oct-97	No: 41
Subject: ROM History (AD1-E-FAX Option)	Prepared by: K.Ugaeri	
From: QAC Field Information Dept.		

Classification:

☐ Troubleshooting	☐ Part information	☐ Action required
☐ Mechanical	☐ Electrical	☐ Service manual revision
☐ Paper path	☐ Transmit/receive	☒ Retrofit information
☐ Other ( )		

We inform you of the firmware history for AD1-E Fax option.

For the USA Model

A2255581	File No. (A225uxx)	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
A	01	1.23	8BFA	1E6A	0E7F	8BEA	297B	1st Mass Prod.
B	02	1.42	5263	428B	6E43	AC89	D020	August Prod.'97

For the European/Asian Mode

A2255582	File No. (A225uxx)	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
A	101	1.23	69B7	4A50	03D5	A175	A0E2	1st Mass Prod.
B	102	1.44	B8D4	1860	628D	C933	C347	August Prod.'97

For European 2nd Language

A2255585	File No. (A225exx)	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
A	201	1.23	9B94	ABF0	CD23	2F39	A571	1st Mass Prod.
B	202	1.44	33BE	2E1B	00C5	7330	E7F9	August Prod.'97

For European 3rd Language

A2255587	File No. (A225exx)	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
A	301	1.44	D106	F2A8	4FC6	CD50	8940	1st Mass Prod.

Model: AD1-E	Date: 15-Oct-97	No: 41

For the China Version

A2255586	File No. (A225cxx)	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
A	01	1.23	FD76	933E	5C23	67C0	A353	1st Mass Prod.
B	02	1.42	A51B	C542	D6A2	0C23	6979	September Prod. '97

For the Taiwan Version

A2255584	File No. (A225txx)	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
A	01	1.23	0603	CF1A	54ED	74EA	AD16	1st Mass Prod.
B	02	1.42	F868	27F5	6104	69F5	AD64	September Prod. '97

Symptom corrected	US	EU/ ASIA	EU2	EU3	China	Taiwan
For PTT Approval 1. Dial pulses from the other terminal were detected as a ringing signal. (France) 2. Busy tone sometimes cannot be detected. It is solved by using two frequencies , 400 Hz and 900 Hz. (New Zealand) 3. The interval between the dial pulses is out of specification. ∗Specification : 1000 ms. (New Zealand)	–	B	B	A	B	B
Received files cannot be printed out from the HDD. When a small amount of data (less than 2 kbytes) is received and the communication is finished before writing to the HDD is finished, the data is not completely written to the HDD.	B	B	B	A	B	B
In ISDN G3 mode, when a call comes from a PSTN G3 machine, the fax number stored in Quick Dial 01 is displayed for a few seconds instead of the called terminal identification.	B	B	B	A	B	B
Only for the Netherlands Dial tone cannot be detected. When the dial tone frequency lower limit (PSTN: Address 480406~7, PABX: Address 480419~A) is less than 255HZ, this problem may occur. This problem happens with software version 1.29 or higher.	–	B	B	A	B	B

A2255581	A225–01	A225–06	A225–07	A225–08
B	A7567090071~	AN67090001~	9A47090001~	L025709146~

A2255582	A225–02	A225–03	A225–04	A225–09	A225–10
B	A7567081811~	A7567092653~	A7567083005~	A7567093083~	AN97100001~

RTB Correction

Reissue date: **20-Oct- 97**

The illustrations have added as shown below.

Model: AD1/AD1-E	Date: 30-Apr-97	No: ***031D***
Subject: Copy Quality (Dirty Background)	Prepared by: K.Ugaeri	
From: QAC 2nd Field Information Dept.		

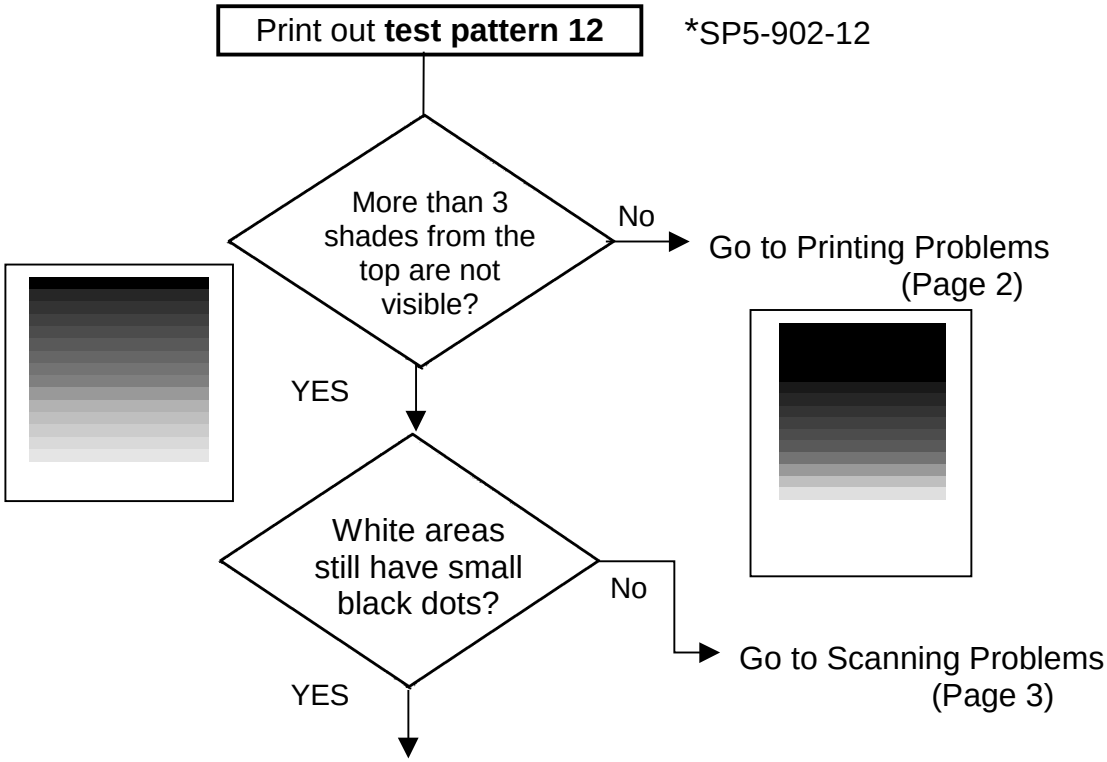
Classification:	☒ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

SYMPTOM

Dirty background or black spots appear on the background of copies.

Action required

First check whether the problem is related to printing or scanning. Then follow the steps listed below.



Drum Fatigue

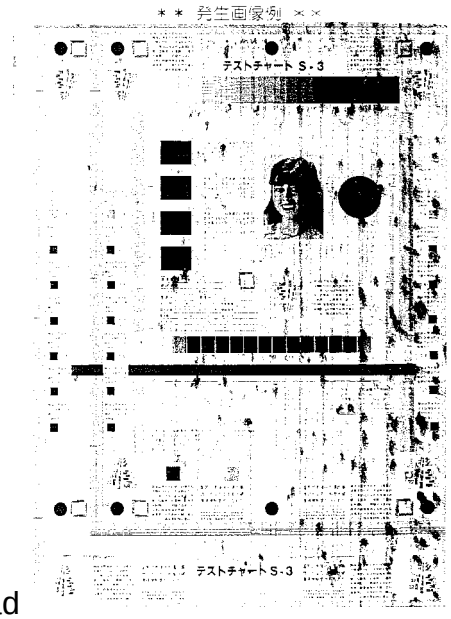
Change the image density level in ADS mode to a lighter setting with SP5-106 to prevent more black dots from being made in generation copy mode.

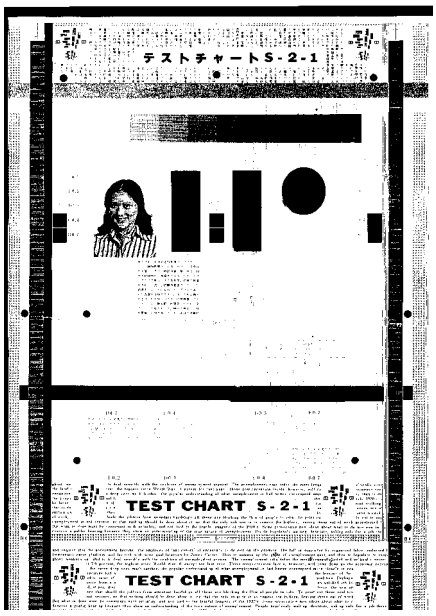
Default : 4

Lightest: 1

Model: AD1	Date: 30-Apr-97	No: *031D*

Printing Problem





Dirty Background by the Printer

Level?

Very bad

Bad
(Overtoning)

Is there any equipment nearby that produces ammonia gas?

YES

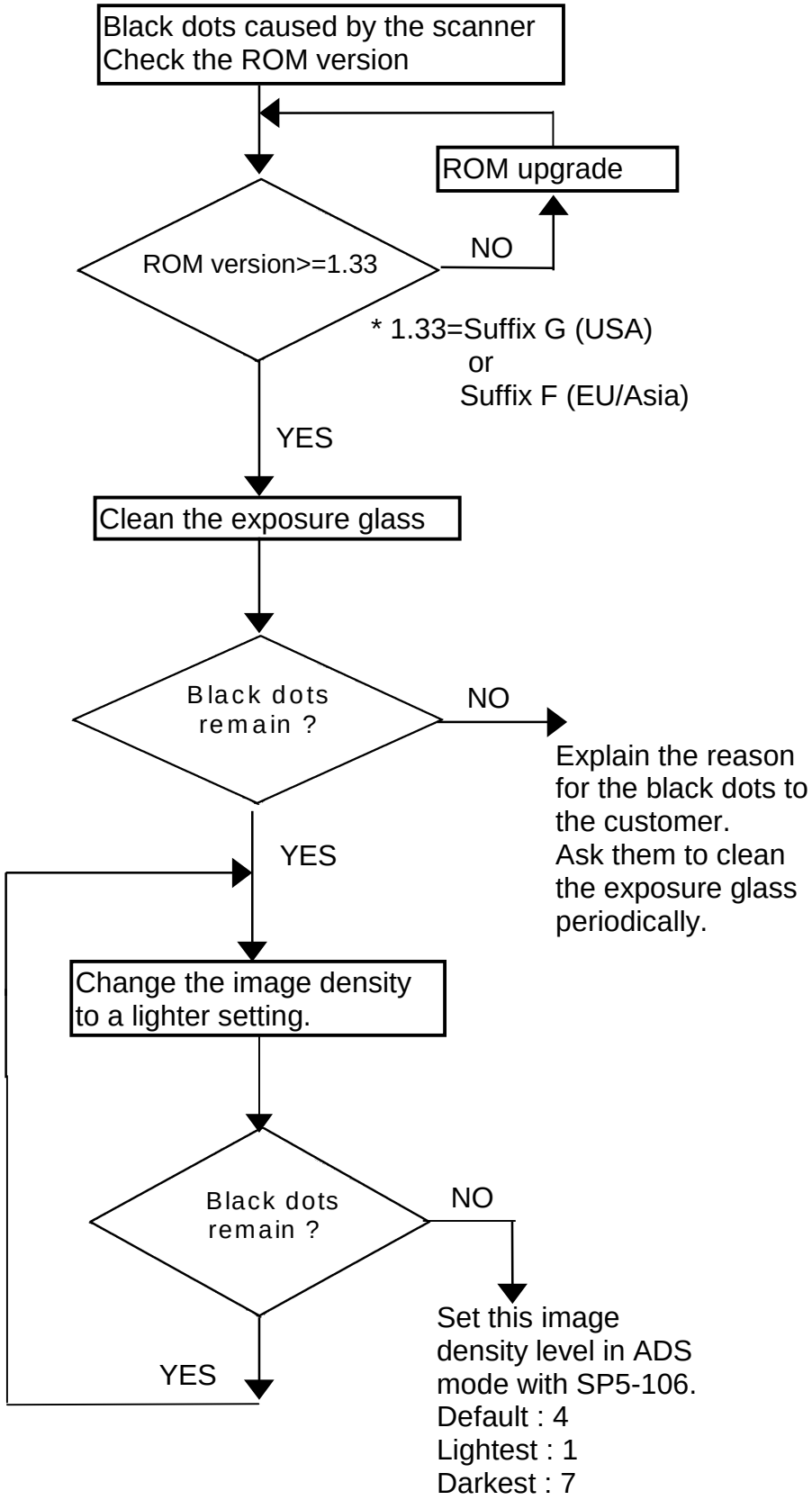
Change the machine location. See RTB 016.

NO

ROM upgrade >=1.35
* 1.35= Suffix H (USA)
or
Suffix G (EU/ASIA)

(1) Change SP2-999 from 0 to 1 (Manual).
(2) Change SP2-996 from 140 to 255 (using the Zoom key).
∗ Toner is not supplied with this setting.
(3) Make 10 sky shot copies (A4 size) to reduce the toner density.
-If the background is still dirty, make more sky shots.
(4) Make the free run for ***9 minutes using SP5-901.***
(5) Put "200" (for AD1) or "180" (for AD1 E) into SP2-996-1.
(6) Make a free run for 3 minutes with SP5-901 again.
(7) Remove and clean the PCU and the transfer unit to prevent toner scattering. Install them in the machine again.
(8) Print out Pattern 12 using SP5-902-12.
(9) End.
∗When the toner density is too light, change the toner density to 1 or 2 using SP2-911.

Scanning problem



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Model: AD1/AD1-E	Date: 20-Oct-97	No: 42
Subject: Dirty Background Problem	Prepared by: K.Ugaeri	
From: QAC Field Information Dept.		

Classification:			
	☒ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

Symptom: Dirty Background (Overtoning)

Cause: Too much toner was supplied to the PCU because of a low q/m in the toner due to the following conditions.

1. After pre-setting the machine, it was not used for a few days.
2. Low copy volume machines had this problem after a vacation of more than 3 weeks.
3. Chemical reaction with ammonia gas, etc.

Action Required

AT INSTALLATION

Initialize twice with SP2-801 at installation.

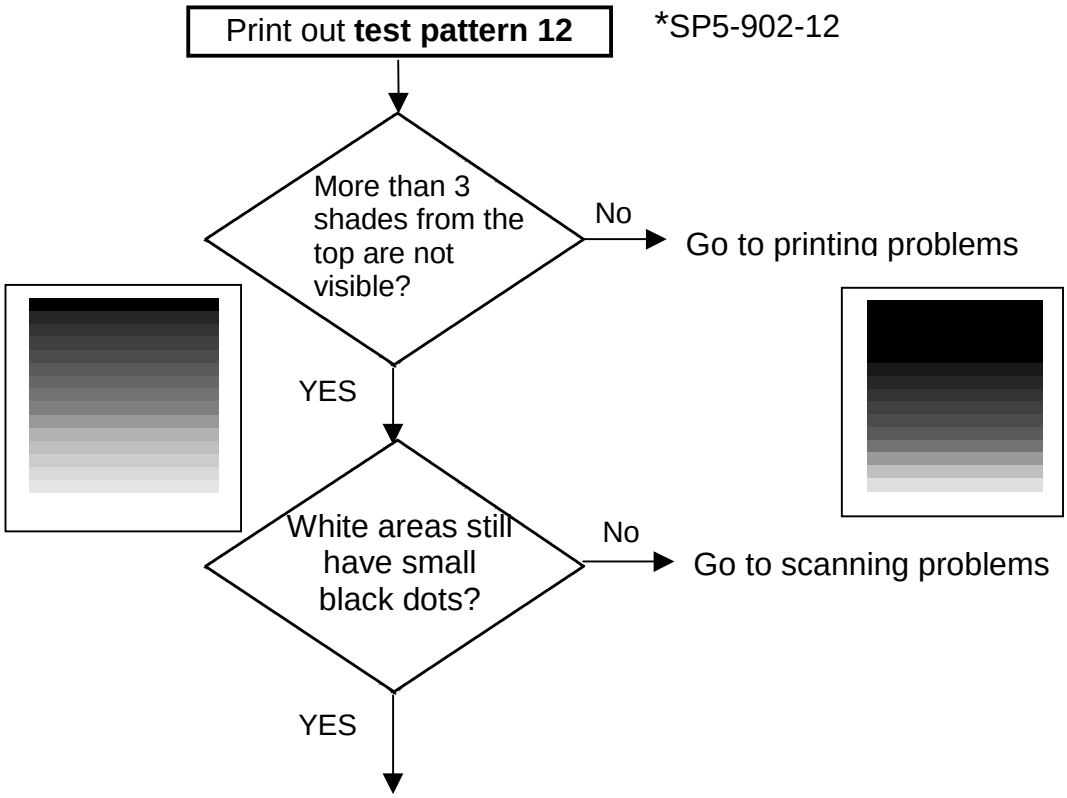
* Even if the machine is pre-set in the laboratory, do it again at installation. If the machine does not run after pre-setting the machine, the q/m will go down drastically.

Model: AD1/AD1-E	Date: 20-Oct-97	No: 42

-TEMPORARY COUNTERMEASURE-

IN THE FIELD

If the dirty background problem occurs, do the following adjustment as noted in. RTB 31D



Drum Fatigue

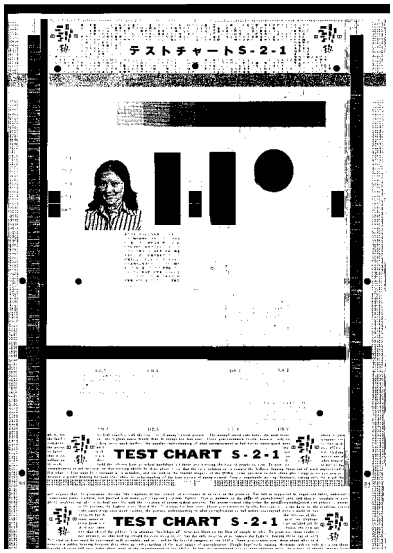
Change the image density in ADS mode to a lighter setting with by SP5-106 to prevent more black dots from being made in generation copy mode.

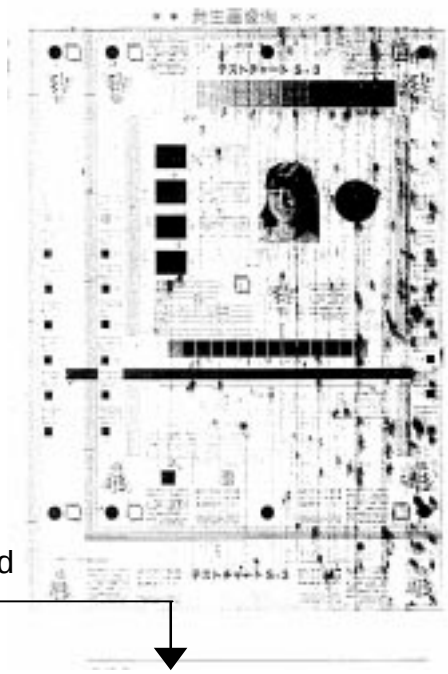
Default: 4

Lightest: 1

Model: AD1/AD1-E	Date: 20-Oct-97	No: 42

Printing Problem





Dirty Background by the Printer

Level?

Very bad

Is there any equipment nearby that produces ammonia gas?

YES

Change the machine location. See RTB 16.

NO

Bad (Overtoning)

ROM upgrade >= 1.35
* 1.35= Suffix H (USA)
or
Suffix G (EU/ASIA)

(1) Change SP2-999 from 0 to 1 (Manual).
(2) Change SP2-996 from 140 to 255 (using the Zoom key).
∗ Toner is not supplied with this setting.
(3) Make 10 sky shot copies (A4 size) to reduce the toner density.
-If the background is still dirty, make more sky shots.
(4) Make the free run for ***9 minutes using SP5-901.***
(5) Put "200" (for AD1) or "180" (for AD1 E) into SP2-996-1.
(6) Make a free run for 3 minutes with SP5-901 again.
(7) Remove and clean the PCU and the transfer unit to prevent toner scattering. Install them in the machine again.
(8) Print out Pattern 12 using SP5-902-12.
(9) End.
∗When the toner density is too light, change the toner density to 1 or 2 using SP2-911.

-PERMANENT COUNTERMEASURE-

The firmware will be improved for this problem as follows.
This firmware will be available from the middle of October production '97.

1. The default of the Vcont value will be corrected.
   AD1 : approx 140 (Current) ---> 10 is added to the default. (150:New for USA)
   ---> 20 is added to the default. (160:New for EU/ASIA)
   AD1E : approx 120 (Current) ---> 10 is added to the default. (130:New for USA)
   ---> 20 is added to the default. (140: New for EU/ASIA)

2. Initializing time will be longer. When a new PCU is installed, the machine initializes the PCU to attain a sufficient q/m for the toner. Its time has been changed from 3 min to 5 min.

3. Mixing time will be added.
   The required mixing time for the developer will be calculated by comparing the difference between the previous VT and the latest one. The latest VT will be checked when the main switch is turned on or the machine is not for used more than 12 hours.

   The table below will decide the mixing time.

Previous VT - Latest VT	Mixing Time (s)
-0.1	10
-0.2	30
-0.3	100
-0.4	300
0.4-	500

The developer will be mixed for 30 s. after every printing job. Then, 30 s will be deducted from the required mixing time (determined by the above table) till it is over.

Note

If the machine is not run for a long time (at the week-end or during a vacation), the machine will maintain the mixing of the developer unit to keep a sufficient toner q/m.

4. The Vt value is corrected.

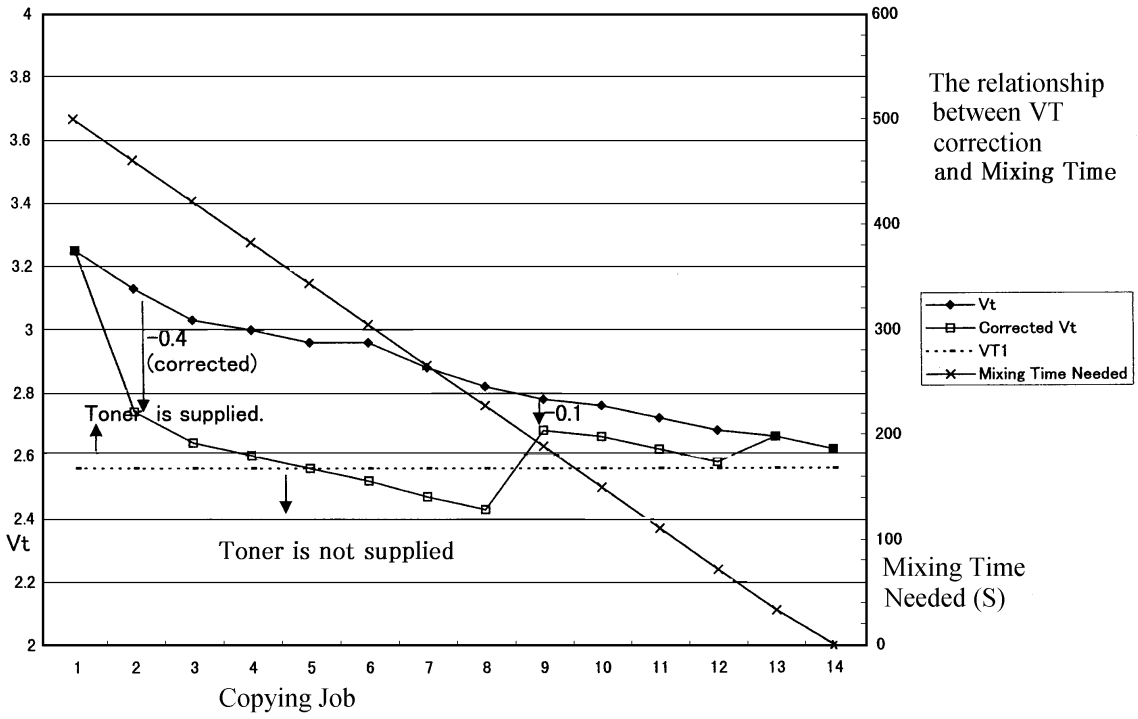
If any mixing time (item 3) remains, the Vt value is corrected as shown in the table below.

Remaining mixing time (s)	Vt correction
-100	0
-200	0.1
-300	0.4
-500	0.4

Note

If mixing time remains, Vt is corrected and toner is not supplied as easily.

* Items 3 and 4 are not available in Manual setting mode (SP2-999).



Model: Printer Controller Type 250 (HDD Option)	Date: 17-Oct-97	No: 43
Subject: HDD Bracket for AD1 printer controller	Prepared by: K.Ugaeri	
From: QAC Field Information Dept.		

Classification:			
	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

The HDD bracket has been modified for the print-overrun problem caused by vibration from the duplex unit (refer to RTB37). These new brackets have been available from June production in 1997 (the cut-in serial number is A7327060001-)

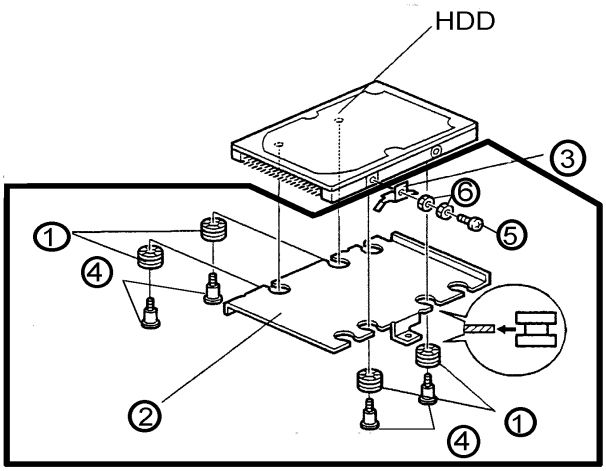
Ricoh has prepared and sent the following Q'ty of the new bracket kits for the old HDD in the field.

Europe 1176 sets
USA 1194 sets
Asia 119 sets

*Kit number : A6439900 HDD Bracket Kit
This kit consists of the following parts.

① AA161125 Bushing – HDD	4 pcs
②A1935840 HDD Bracket	1 pc
③A1935842 Grounding plate – HDD	1 pc
④A1935843 Stepped Screw	4 pcs
⑤03130050B Philips Pan Head Screw - M3x5	1 pc
⑥07120030W Nut -M3	2 pcs
A6438612 Instruction Guide	1 sheet

If you have the print overrun problem on an AD1 with a duplex unit or when you visit a customer whose machine has the old HDD bracket, please change the bracket to a new type.



⇒HDD Bracket Kit

Model:	Date: 17-Oct-97	No: 43

Printer Hard Disk Type 250
(Machine Code: A643)
INSTALLATION PROCEDURE
For Machine Code: A193 and A224 Copiers

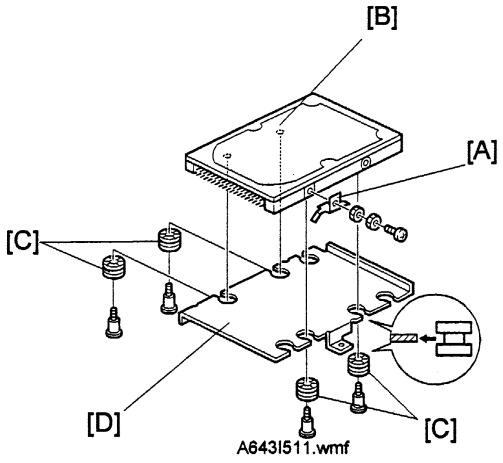
THIS OPTION MUST BE INSTALLED BY A CUSTOMER SERVICE REPRESENTATIVE WHO HAS COMPLETED THE TRAINING COURSE ON THE BASE COPIER AND THIS OPTION.

⚠CAUTION

Before installing an optional unit, do the following:

1. **If the FAX unit is installed, print out all messages stored in the memory, the lists of user-programmed items, and the system parameter list.**
2. **Turn off the main and the ac switches, and disconnect the power cord.**

NOTE:
- If the printer controller is already installed, remove the printer controller before attempting to install the printer hard disk.
- At least 6MB of memory are required on the printer controller for hard disk installation.
  If insufficient memory is installed in the printer controller, "Add memory 4MB or more," will be displayed.



1. Attach the grounding plate [A] to the hard disk drive [B]. (1 screw, 2 nuts)
2. Attach the four rubber bushings [C] to the bracket [D], as shown.
3. Install the hard disk onto the bracket assembly (4 stepped screws).
   Note: Ensure the grounding plate feet are in contact with the bracket.

Model: Printer Controller Type 250/251	Date: 15-Nov-97	No: 44
Subject: ADAM/ADAM-E Printer Limitations	Prepared by: S.Tomoe	
From: QAC Field Information Dept.		

Classification:			
	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☒ Other ( )		

The limitations of the ADAM/ADAM-E printer controller are as shown below.

ADAM/ADAM-E printer controller limitations

No	Description	Recommendations/ Countermeasures	Note
1	There is no close button (X icon) at the upper-right corner of the task bar to close the printer properties window in the Print Setup menu.	* Press "OK" or "Cancel" button to close the printer properties window. * Click anywhere on the task bar , the close button (X icon) will appear at the right corner of the task bar.	
2	When a jam occurs in the Finisher at W1 or W2, the jam position is indicated in both WinPanel and the operation panel display only with W and does not specify whether it is W1 or W2.	Check both W1 and W2 when there is a jam at the W position in the finisher.	ADAM can recognize a jam at only the W position at W1 or W2 in the finisher.
3	WinPanel does not indicate the Toner Near End status.		"Add Toner" is shown on the WinPanel when toner ends.
4	If you perform initialization to format the Hard Disk while Data is coming in (when the Data-in indicator is blinking), the ADAM-E printer hangs up.	Format the Hard Disk while the printer is idle (no data in the buffer).	It is generally regarded as not possible to initialize the HDD while data is coming in.
5	When you print a Photoshop file and if you choose "draft print" in the Photoshop application print setup window, blank page(s) will be printed.	Print the file using the "High", "Mid" or "Low" print quality setting in the Photoshop printer setup window. Do not choose "draft print".	The ADAM-E Printer Driver does not support "draft print" in the Photoshop application.
6	While printing (data in buffer to print job), if you take the printer off-line and try to print a PCL font list, the printer hangs up.	Print the PCL fonts list while the printer is idle (no data in buffer).	It is generally regarded as not possible to print Printer Fonts while printing a job.

No	Description	Recommendations/ Countermeasures	Note
7	When you print with "Graphic Mode: Raster + Graphic Quality: Mid or Low", Freehand 5.0 files cannot be printed properly. Only a part of the image gets printed and the rest of the image is missing.	Print with Graphic Quality: High.	The limitation is unique for Freehand 5.0 and occurs with HP 5si as well. With Freehand 7.0, there is no such limitation. The default setting of the printer driver is "High".
8	When you print a Pagemaker file with "Graphic Mode: Raster + Graphic Quality: Mid or low" setting, rotated text cannot be printed properly.	Print with Graphic Quality: High.	The default setting of the printer driver is "High".
9	When you print a Pagemaker file using Windows 3.1 with "Graphic Mode: Raster + Graphic Quality: High, Mid or low", you will get horizontal black lines on photographic images.	Print with Graphic Mode: HP/GL.	
10	More than one set of Acrobat 2.0 files cannot be printed.	Upgrade Acrobat 2.0 to 3.0.	The limitation is unique for Acrobat 2.0. With Acrobat 3.0, there is no such limitation.

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Model: AD1E-Printer Type 251	Date: 30-Nov-97	No: 45
Subject: Firmware and Software History	Prepared by: K.Ugaeri	
From: QAC Field Information Dept.		

Classification:

☐ Troubleshooting	☐ Part information	☐ Action required
☐ Mechanical	☐ Electrical	☐ Service manual revision
☐ Paper path	☐ Transmit/receive	☒ Retrofit information
☐ Other ( )		

A. Firmware for Controller Type 251.

1. History and checksum List.

Ver	Check Sum		Released on
	U23	U24	
5.13 5.09 5.04	DB12 0E06	A541 D22F	'97.9.30 '97.8.26 1st Mass Prod.

2.Corrected Symptoms

	Ver.
When printing a banner page in a staple job, the banner page is printed incorrectly.	5.13
Resource saving on the test page indicates "1219 kbytes allocated of 1219 Kbytes available." It should be "0 kbytes allocated of ..."	
When printing with raster mode and custom paper size setting, output is incorrect.	
After printing a job using staple mode, if sending another job which changed the Page Protection Mode from the previous job's setting, sometimes it does not work, and the data stays in the print queue.	5.09
When setting a User Code, if you send data to print while the LCD shows "Input user code...", it does not work without pressing the offline / online key even if you input the User Code.	

B. Driver Software for Win 3.1/Win 95

1. History List

Ver	Released on
2.00	1st Mass Prod.

C. Host Panel for DOS

1. History List

Ver	Released on
1.02	1st Mass Prod.

RTB Correction

Reissue date: **15-Dec-97**

The items in bold italic have been corrected or added.

Model: AD1	Date: 15-Dec-97	No: 14C
Subject: ROM History (AD1-FAX Option)	Prepared by: K.Ugaeri	
From: QAC 2nd Field Information Dept.		

Classification:			
	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☒ Retrofit information
	☐ Other ( )		

Firmware history for the AD1-Fax option.

USA Model

A1945581	File No. (A194uxx)	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
C	03	1.23	DD95	CB2A	27F0	BD19	72A5	1st Mass Prod.
D	04	1.29	E6D7	83C2	E9BD	47BC	7F1A	November Prod.'96
E	05	1.38	EAAE	A99A	5C74	919A	5A3A	December Prod.'96
F	06	1.48	5029	5D2A	E457	1FF3	4ED2	March Prod.'97
G	07	1.58	2AEF	27EO	FD88	286A	E367	May Prod.'97
H	08	1.77	43BO	3357	84BC	EAA2	C5F4	August Prod.'97

European/Asian Model

A1945582	File No. (A194exx)	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
B	02	1.23	3A44	0A20	FC8A	691F	FEBA	1st Mass Prod.
C	03	1.29	3270	D0F9	39CD	F1E6	19A3	November Prod.'96
D	04	1.38	3745	FA2F	B98C	C966	E8B9	December Prod.'96
E	05	1.48	3745	FA2F	B98C	C966	E8B9	March Prod.'97
F	06	1.58	8D00	FFBE	C502	1BB4	55FE	May Prod.'97
(G)	07t	1.78	C19B	E4F1	FF0B	9B9F	3290	Temporary
G	07	1.79	C2A4	E4F2	FF14	9B9F	3290	August Prod.'97
H	***08***	***1.80***	***A450***	***E271***	***3B61***	***930F***	***E8EF***	***October Prod.'97***

European 2nd Language

A1945585	File No. ***(A194oxx)***	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
A	01	1.38	F398	E170	B392	56E5	EB06	December Prod.'97
B	02	1.48	E08A	B674	46C1	DDFC	29C9	March Prod.'97
C	03	1.58	5494	87A5	28B5	B595	F1DF	May Prod.'97
(D)	04t	1.78	77E2	2CD4	372E	23DD	8FB4	Temporary
D	04	1.79	3D4C	2F88	6AFD	121C	2E4F	August Prod.'97
E	***05***	***1.80***	***A63A***	***3372***	***A541***	***O793***	***FBF9***	***October Prod.'97***

For European 3rd Language

A194	File No. A194pxx	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
B	***02***	***1.80***	***385B***	***D3CF***	***9ABE***	***01CD***	***019D***	***October Prod.'97***

China

A194	File No. A194pxx	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
B	02	1.80	AB3E	C008	DDA3	7D7E	479B	August Prod.'97

Taiwan

A194	File No. A194txx	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
C	03	1.77	D672	7BEE	6E00	46A5	D572	August Prod.'97

Symptoms corrected	US	EU/ ASIA	EU2	EU3	China	Taiwan
The PC FAX (TR29) Option is supported	**—**	***H***	***E***	***B***	**—**	**—**
For PTT Approval 1. Dial pulse signal from the other terminal was detected as a ringing signal. (France) 2. Busy tone sometimes cannot be detected. It is solved by using two frequencies, 400 Hz and 900 Hz. (New Zealand) 3. Interval between the dial pulses is out of specification. ∗Specification: 1000 ms. (New Zealand)	—	G	D		B	C
Received files cannot be printed out from the HDD. When a small amount of data (less than 2 kbytes) is received and the communication is finished before writing to the HDD is finished, the data is not completely transferred the HDD.	H	G	D		B	C
In ISDN G3 mode, when a call comes from a PSTN G3 machine, the fax number stored in the machine's own Quick Dial 01 is displayed for a few seconds instead of the called terminal identification.	H	G	D		B	C
Only for the Netherlands Dial Tone cannot be detected when the dial tone frequency lower limit (PSTN: Address 480406 ~ 7, PABX: Address 480419 ~• A) is less than 255 Hz. This problem happens with ver 1.29 or higher.	H	(G)	(D)		B	C
The Two-in-one Function from HLT to LT size paper is not working.	G	F	C			
New System Switch When closed network is enabled and the ID is not programmed, all reception is disabled (this is a specification). A System Switch has been added to modify this. Switch 1E Bit 4. When closed network is turned on and the ID is not set: 0: Closed network is not available. 1: Only transmission is available.	G	F	C			
New System Switch The display of the remote terminal ID at AI redial: Switch 1E Bit 5 0: RTI/CSI is displayed. 1: The input Fax Number is displayed.	G	F	C			
The LCT and duplex tray are supported.	G	F	C			
The new HDD is supported.	G	F	C			
The NEST card option is supported.	G	F	C			
In the G3or G4 receiving mode, when the memory is full at the first block of any page, a part of the previous page is missing.	F	E	B			
Receiving error in G4 mode (When it is waiting for RSSP (or RSSN) after sending "CONN", the machine displays "communication error" if "DISC" comes.)	F	E	B			

Model: AD1	Date: 15-Dec-97	No: 14C

Symptom corrected	US	EU/ ASIA	EU2	EU3	China	Taiwan
The periodical auto service call function does not work.	F	E	B			
For Canada only The number of redials in Canada is changed to meet the CS-03 standard. System switch 0F The setting for Canada (10h) is added. If the above switch is set to 10h, the number of redials (Communication switch 10) is set to 02h.	—					
For the Netherlands only Marketing Requirments 1. Dialling method default setting: PD changed to DTMF (User switch 1A/bit 0.1 changed to 0.1) 2. Default setting of Transmision mode: Memory Tx changed to Immediate Tx (User switch 00/bit 6 changed to 1) 3. International Access code : 00 changed to FF	—	E	B			
For Austria only Marketing Requirments 1. Dialling method default setting: PD changed to DTMF (User switch 1A/bit 0.1 changed to 0.1) 2. Default setting of Transmission mode : Memory Tx changed to Immediate Tx (User switch 00/bit 6 changed to 1) 3. Number of redials : 5 changed to 10 (Communication switch 10/bit 0-4) 4. Redial interval in Memory Transmission: 5 min. changed to 1 min. (Communication switch 12/bit 0-7)	—	E	B			
For New Zealand only The ringing detection time is changed. NCU parameters 07 & 0.8 : 010 changed to 015	—	E	B			
For Australia only Tx time of 2100 Hz is changed from 2.7 s to 3.5 s.	—	E	B			
When the handset is picked up during ringing signal detection, the reception is disconnected but the reception job occasionally remains in the machine. In this case, the display does not go to “Handset Mode” even if the handset is picked up, or “line is busy” is displayed when directtx is made from the ADF.	E	D	A			
In manual tx mode with the handset, the operator presses the Start key and hangs up the handset at the same time. Then the transmission job remains in the machine. In this case, transmission and reception are both not available or “Handset mode” is always displayed. This problem can be solved by picking up the handset again.	E	D	A			
The chain dial function cannot be used in on-hook or handset mode.	E	D	A			
When the machine stores a letter-size original using image rotation, the compression does not succeed, then the job is reset if the original is a complicated image scanned in photo mode.	E	—	—			

RTB Correction

Reissue date: **15-Dec -97**

The items in bold Italics have been corrected or added.

Model: AD1	Date: 15-Jan-97	No: 15F
Subject: ROM History (AD1 Copy Version)	Prepared by: K.Ugaeri	
From: QAC Field Information Dept.		

Classification:

☐ Troubleshooting	☐ Part information	☐ Action required
☐ Mechanical	☐ Electrical	☐ Service manual revision
☐ Paper path	☐ Transmit/receive	☒ Retrofit information
☐ Other ( )		

Firmware history for the AD1.
USA

A1935532	File No. (A193uxx)	Version	Total C.SUM	SUM(OH)	SUM(OL)	Production
D	04	1.16	55DD	178E	3E4F	1st Mass Prod.
E	05	1.23	FB24	B285	489F	November Prod.'96
F	06	1.31	F96B	F66D	02FE	December Prod.'96
G	07	1.33	5D03	2ECA	2E39	January Prod.'97
H	———	1.35	———	———	———	January Prod.'97
J	———	1.36	———	———	———	January Prod.'97
K	10	1.38	A7FE	FB14	ACEA	February Prod.'97
L	11	1.43	BA4B	536A	66EI	March Prod.'97
M	11A	1.48	F9D6	3029	C9AD	May Prod.'97
N	12	1.54	7413	3D1A	36F9	June Prod.'97
P	13	1.60	3042	A726	891C	August Prod.'97
R	14	1.62	5B56	CF0D	8C49	September Prod.'97
T	***16***	***1.70***	***8D31***	***65E0***	***2751***	***October Prod.'97***

Europe/Asia

A1935533	File No. (A193exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)	Production
C	103	1.16	B574	E4C1	D0B3	1st Mass Prod.
D	104	1.23	FC4B	98CE	637D	November Prod.'96
E	105	1.31	OADC	41C5	C917	December Prod.'96
F	107	1.33	4C77	CFF3	7C84	January Prod.'97
G	———	1.35	———	———	———	January Prod.'97
H	———	1.36	———	———	———	January Prod.'97
J	110	1.38	ACCC	2927	8353	February Prod.'97
K	111	1.43	F537	6510	9027	March Prod.'97
L	111A	1.48	7218	5558	1CC0	May Prod.'97
M	112	1.54	AAA8	7837	3271	June Prod.'97
N	113	1.60	1FE3	AEE1	7102	August Prod.'97
P	114	1.62	794C	90BE	E88E	September Prod.'97
R	***116***	***1.70***	***2208***	***D8BC***	***494C***	***October Prod.'97***

∗Versions 1.35 and 1.3 are not released via Files.

Model: AD1	Date: 15-Jan-97	No: 15F

European 2nd Language

A6485510(OL) A6485511(OH)	File No. (A193exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
E	205	1.43EU2	4BC4	DE26H	6D9E
F	205A	1.48EU2	09F5	CC25	3DD0
G	206	1.54EU2	E768	F05C	F70C
H	208	1.57EU2	E765	F056	F70F
J	209	1.60EU2	AE02	2277	8B8B
K	210	1.62EU2	CB8A	0ACC	C0BE
M	***212***	***1.70EU2***	***4159***	***50F0***	***F069***

European 3rd Language

A6485514 (OL) A6485515(OH)	File No. (A193exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
	301	1.57EU3	9DBB	C908	D4B3
A	302	1.60EU3	390A	FD07	3C03
B	303	1.62EU3	C69E	D5E3	F0BB
D	***305***	***1.70EU3***	***006B***	***8E5E***	***720D***

European 4th Language

A6485516 (OL) A6485517(OH)	File No. (A193exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
	401	1.57EU4	1DF0	CA60	5390
A	402	1.60EU4	4490	FDEF	46A1
B	403	1.62EU4	A30C	D9E5	C927
D	***405***	***1.70EU4***	***3973***	***9405***	***A56E***

China

A6485512 (OL) A6485513(OH)	File No. (A193CHxx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
E	04	1.62CH	B020	B056	FFCA
H	***07***	***1.70CH***	***1893***	***3AEA***	***DDA9***

Taiwan

A1935534	File No. (A193TWxx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
B	03	1.62TW	C05F	3BA0	94BF
E	***06***	***1.70TW***	***470D***	***87F1***	***BF1C***

Symptom Corrected	USA	EU/ Asia	EU2	EU3	EU4	CHN	TWN
Dirty background problem (Refer to RTB 42) ***-Vt correction*** ***-Mixing time***	***T***	***R***	***M***	***D***	***D***	***H***	***E***
New SP mode ***•SP2-994: Vcont offset*** ***•SP9-999-14: Additional Mixing time display***	***T***	***R***	***M***	***D***	***D***	***H***	***E***
For the USA only New SP mode. SP5-950: LG size paper detection in the by pass tray. ∗ When this function is selected and LT ▭ size paper is put in the by-pass tray, the machine detects it as LG ▭ size paper.	R	—	—	—	—	—	—
For the USA only Compliance with the Energy Star standard.	R						
After a fax transmission using the ARDF with the stamper, the registration of the 1st sheet copied using the ARDF is delayed.	R	P	K	B	B	E	B
New SP mode SP 5-949 0: Normal operation (during copying, if a tray empties, the paper end indicator does not light if paper in another tray can be used; the indicator will light if the user selects an empty tray) 1: When one of the trays is empty, the indicator lights	P	N	J	A	A	D	A
The DF Jam display is cleared by lifting the DF up and down	P	N	J	A	A	D	A
New SP Mode SP***6***-006-4: ARDF Main-Scan ***Registration*** for the rear side.	N	M	G				
Specification When the trays do not have the same size of paper in different orientations, the machine continues to print using the sort function even if the Rotate Sort function is selected.(The previous version software stops the copy job when one of the trays is empty.)	N	M	G				
The stapler may not work when the printer feeds out a stapled copy while feeding out paper into the finisher in copy or fax mode.	N	M	G				
When 2 sheets of paper remain in the Duplex Unit and the printer prints in duplex mode, the printer image will be printed on the rear side of the remaining paper.	N	M	G				
SP5-808: The 3 languages cannot be selected with the previous software version.	—	M	G				
If a duplex copy is made with the ADF, Duplex Unit and 12M Memory and the original is jammed, the jammed original cannot be copied correctly during recovery.	M	L	F				
Paper jam when paper is fed from the 3rd tray immediately after feeding the paper from the 4th tray.(A jam or Y jam) with the following paper types. ∗ 3rd Tray has paper of length less than 288 mm (A4 ▯) 4th Tray has paper of length 289mm to 401mm (A4 ▭)	M	L	F				

When the RAM was cleared with SP5-801, the white level and the standard white plate density set at the factory were erased.	L	K	E				
Toner scattering around black areas of the image on the rear side of duplex copies. The default of the separation output voltage was changed. (SP2-901-1→ -1800 SP2-901-2→ -1800 SP2-901-3→- 2500 SP2-901-4→- 2500)	K	J					
A blank sheet is printed out when the start key is pressed if the memory is full. The scanning restarts after printing the scanned image and then the first original jams.	J	H					
Dirty Background. 1) Toner Density (SP2-911) was changed from 2 to 3 (Lighter). 2) Free run time at PCU installation was changed from 1 min. to 3 min.	H	G					
Black Spots in the scanned image - A scanned low contrast image can be adjusted using 7 settings. Each setting has different gamma correction characteristics, MTF filter and threshold level (new SP mode: SP4-998,999)	G	F					
Dirty background on white images after negative\positive reversal.	G	F					
SC321 appears when the door is opened during memory copying if the start key is pressed after closing the door.	G	F					
The development bias setting (SP2-201) is initialized when the main switch is turned off.	G	F					
SC921-Memory Access Error After a paper jam while opening the door during memory output.	F	E					
SC101 appears when turning the main switch off/on after the IPU test pattern in SP mode.	F	E					
SP5-803: New PCU Detect is added to the input checks.	F	E					
Memory copy priority of SP5-945 is added to Salesman Program Mode.	F	E					
SP mode cannot be cleared when the main switch is turned off/on after going to the interrupt copy mode from SP mode.	F	E					
The finisher is supported.	F	E					
While feeding out an original from the ADF, the Start key can be pressed. Then the incorrect document size is detected.	E	D					
The ARDF is supported.	E	D					

A1935532	A193-10	A193-15	A193-17	A193-55
E	A10611001~	6A76100001~	A7226100001~	L5026110066~
F	_	6A76120001~	A7226110154~	L5026120516~
G	A107010001~	6A76120026~	A7226120149~	L5027011010~
H	_	6A77020001~	A7227010410~	L5027021541~
J	A107020001~	6A77020241~	_	L5027021563~
K	A107030001~	6A77020438~	A7227020001~	L5027031945~
L	A107040001~	6A77040001~	_	L5027042480~
M	A107050001~	6A77050001~	A7227050001~	L5027053186~
N	A107060036~	6A77060001~	A7227060001~	L5027063876~
P	***A107080001~***	***6A77080001~***	***A7227080001~***	***L5027085441~***
R	***A107090001~***	***6A77090001~***	***A7227090001~***	***L5027096321~***
T	***TBA***	***TBA***	***TBA***	***TBA***

A1935533	A193-22	A193-26	A193-27	A193-29	A193-65	***A193-69***
D	AH26110001~	3L01160001~	A7226101023~	A7226101492~	L5026110271~	
E	AH26120001~	3L01260001~	A7226111703~	A7226122087~	L5026120780~	
F	AH27010001~	3L00170001~	A7226121305~	A7227012021~	L5027011216~	
G	AH27020001~	3L00270001~	—	—	L5027011424~	
H	AH27020951~	—	A7227021026~	A7227021345~	L5027021685~	
J	AH27020967~	3L00370001~	A7227030441~	A7227031491~	L5027032180~	
K	TBA	3L00470001~	TBA	TBA	TBA	
L	AH27040251~	3L00570001~	A7227042629~	A7227052269~	L5027053561~	
M	AH27060960~	3L00670001~	A7227060651~	A7227062571~	L5027064111~	
N	***AH27080001~***	***3L00870001~***	***A7227080969~***	***A7227081769~***	***L5027085755~***	
P	***AH27090001~***	***3L00970001~***	***A7227090881~***	***A7227092701~***	***L5027096431~***	***A7227092891~***
R	***TBA***	***TBA***	***TBA***	***TBA***	***TBA***	

A1935534	A193-19
B	A7227090821~

MB Correction

Reissue date: **15-Dce-97**

The items in bold italics have been corrected or added.

Model: AD1-E	Date: 15-Oct-97	No: 40A
Subject: ROM History (AD1-E Copy Version)	Prepared by: K.Ugaeri	
From: QAC Field Information Dept.		

Classification:

- ☐ Troubleshooting
- ☐ Part information
- ☐ Action required
- ☐ Mechanical
- ☐ Electrical
- ☐ Service manual revision
- ☐ Paper path
- ☐ Transmit/receive
- ☒ Retrofit information
- ☐ Other ( )

Firmware history for the AD1-E (Copy)

USA Model

A2245532	File No. (A224uxx)	Version	Total C.SUM	SUM(OH)	SUM(***OL***)	Production
D	01	1.18	7766	6521	1245	1st Mass Prod.
E	02	1.20	01F7	98CE	6929	June Prod. '97
F	03	1.24	D441	9943	3AFE	August Prod. '97
H	04	1.26	C879	5895	6FE4	September Prod. '97
K	***06***	***1.30***	***432E***	***144E***	***2EE0***	***October Prod. '97***

European /Asian Model

A2245533	File No. (A224exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)	Production
B	101	1.20EU1	46A8	65C6	E0E2	1st Mass Prod.
C	102	1.24EU1	F12D	8333	6DFA	August Prod. '97
D	103	1.26EU1	6693	55DF	10B4	September Prod. '97
F	***105***	***1.30EU1***	***6F80***	***F07D***	***7F03***	***October Prod. '97***

European 2nd Language

A8105510(OL) A8105511(OH)	File No. (A224exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
A	202	1.24EU2	9FB1	FAE8	A4C9
B	203	1.26EU3	649F	D770	8D2F
D	***205***	***1.30EU3***	***76E6***	***6ED6***	***0810***

European 3rd Language

A8105514(OL) A8105515(OH)	File No. (A224exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
A	302	1.24EU3	2C91	F73A	3557
B	303	1.26EU3	649F	D770	8D2F
D	***305***	***1.30EU3***	***6B26***	***4D86***	***1DA0***

European 4th Language

A8105516(OL) A8105517(OH)	File No. (A224exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
A	402	1.24EU4	7A6A	F8BC	81AE
B	403	1.26EU4	E7F9	DA9F	0D5A
D	***405***	***1.30EU4***	***A7C1***	***4EF5***	***58CC***

China Version

A8105512(OL) A8105513(OH)	File No. (A224CHxx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
–	–	–	–	–	–

Taiwan Version

A2245534	File No. (A224TWxx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
–	–	–	–	–	–

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Symptom Corrected	USA	EU/ Asia	EU2	EU3	EU4	CHN	TWN
Dirty background Problem (Refer to RTB 42) ***-Vt correction*** ***-Mixing time***	***K***	***F***	***D***	***D***	***D***	_	_
New SP mode ***•SP2-994: Vcont offset*** ***•SP9-999-14: Additional Mixing time display***	***K***	***F***	***D***	***D***	***D***	_	_
For the USA only New SP mode SP5-950: LG size paper detection on the by pass tray. * When this function is selected and LT ▭ size paper is put in the by-pass tray, the machine detects it as LG ▭ size paper.	H	_	_	_	_	_	_
For the USA only To meet the Energy Star standards.	H	_	_	_	_	_	_
After fax transmission using the ARDF with a stamper, the registration of the 1st copied paper by the ARDF is delayed.	H	D	B	B	B	_	_
A new SP has been added. SP5-949:1= When one of the trays is empty, the paper end indicator (red LED) lights.	F	C	A	A	A	_	_
The DF Jam display is cleared by lifting the DF up and down	F	C	A	A	A	_	_
New SP Mode SP6-006-4: ARDF Main-Scan Registration for the rear side.	E						
Specification When the trays do not have paper of the same size in different orientations, the machine continues to print using the sort function even if Rotate Sort is selected. (The previous software version stops the copy job when one of the trays is empty)	E						
The stapler may not work when the printer feeds out a stapled copy while feeding out the paper into the finisher in copy or fax mode.	E						
When two sheets of paper remain in the Duplex Unit and the printer prints in duplex mode, the printout will be made on the rear side of the paper remaining in the duplex unit.	E						

A2245532	A224-10	A224-15	A224-17	A22455
E	AK87070001~	9A37060001~	A7427060001~	L027080001~
F	AK87080023~	9A37080001~	A7427080001~	_
H	AK87090001~	9A37090001~	A7427090001~	L027090031~
K	***TBA***	***TBA***	***TBA***	***TBA***

A2245533	A224-22	A224-26	A224-27	A224-29	A224-65
C	AK97070543~	3P30870001~	A7427080601~	A7427081501~	_
D	AK97090001~	3P30970001~	A7427090305~	A7427091035~	L0247090216~
F	***TBA***	***TBA***	***TBA***	***TBA***	***TBA***

MB Correction

Reissue date: **15-Dce-97**

The items in bold Italics have been corrected or added.

Model: AD1-E	Date: 15-Dec-97	No: 41A
Subject: ROM History (AD1-E-FAX Option)	Prepared by: K.Ugaeri	
From: QAC Field Information Dept.		

Classification:

- ☐ Troubleshooting
- ☐ Part information
- ☐ Action required
- ☐ Mechanical
- ☐ Electrical
- ☐ Service manual revision
- ☐ Paper path
- ☐ Transmit/receive
- ☒ Retrofit information
- ☐ Other ( )

Firmware history for the AD1-E Fax option.

USA Model

A2255581	File No. (A225uxx)	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
A	01	1.23	8BFA	1E6A	0E7F	8BEA	297B	1st Mass Prod.
B	02	1.42	5263	428B	6E43	AC89	D020	August Prod.'97

European/Asian Model

A2255582	File No. (A225exx)	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
A	01	1.23	69B7	4A50	03D5	A175	A0E2	1st Mass Prod.
B	02	1.44	B8D4	1860	628D	C933	C347	August Prod.'97
C	***03***	***1.48***	***A559***	***17AD***	***588A***	***CC68***	***37CF***	***October Prod.'97***

European 2nd Language

A2255585	File No. (A225oxx)	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
A	01	1.23	9B94	ABF0	CD23	2F39	A571	1st Mass Prod.
B	02	1.44	33BE	2E1B	00C5	7330	E7F9	August Prod.'97
C	***03***	***1.48***	***A73F***	***2F37***	***3F7E***	***6A45***	***EBC1***	***October Prod.'97***

European 3nd Language

A2255587	File No. (A225pxx)	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
A	01	1.44	D106	F2A8	4FC6	CD50	8940	1st Mass Prod.
B	***02***	***1.48***	***3A07***	***F808***	***870A***	***C4D6***	***D4FD***	***October Prod.'97***

Model: AD1-E	Date: 15-Dec-97	No: 41A

China Version

A2255586	File No. (A225cxx)	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
A	01	1.23	FD76	933E	5C23	67C0	A353	1st Mass Prod.
B	02	1.42	A51B	C542	D6A2	0C23	6979	September Prod. '97

Taiwan Version

A2255584	File No. (A225txx)	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
A	01	1.23	0603	CF1A	54ED	74EA	AD16	1st Mass Prod.
B	02	1.42	F868	27F5	6104	69F5	AD64	September Prod. '97

Symptom corrected	US	EU/ ASIA	EU2	EU3	China	Taiwan
The PC FAX (TR29) option is supported.	_	***C***	***C***	***B***	_	_
For PTT Approval 1. Dial pulses from the other terminal were detected as a ringing signal. (France) 2. Busy tone sometimes cannot be detected. It is solved by using two frequencies , 400 Hz and 900 Hz. (New Zealand) 3. The interval between the dial pulses is out of specification. ∗Specification : 1000 ms. (New Zealand)	_	B	B	A	B	B
Received files cannot be printed out from the HDD. When a small amount of data (less than 2 kbytes) is received and the communication is finished before writing to the HDD is finished, the data is not completely written to the HDD.	B	B	B	A	B	B
In ISDN G3 mode, when a call comes from a PSTN G3 machine, the fax number stored in Quick Dial 01 is displayed for a few seconds instead of the called terminal identification.	B	B	B	A	B	B
Only for the Netherlands Dial tone cannot be detected. When the dial tone frequency lower limit (PSTN: Address 480406~7, PABX: Address 480419~A) is less than 255HZ, this problem may occur. This problem happens with software version 1.29 or higher.	_	B	B	A	B	B

A2255581	A225–01	A225–06	A225–07	A225–08
B	A7567090071~	AN67090001~	9A47090001~	L025709146~

A2255582	A225–02	A225–03	A225–04	A225–09	A225–10
B	A7567081811~	A7567092653~	A7567083005~	A7567093083~	AN97100001~
C	***TBA***	***TBA***	***TBA***	***TBA***	***TBA***

MB Correction

Reissue date: **15-Dce-97**

The items in bold Italics have been corrected or added.

Model: AD1/AD1-E		Date: 20-Oct-97	No: 42A
Subject: Dirty Background Problem		Prepared by: K.Ugaeri	
From: QAC Field Information Dept.			
Classification:	☒ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

Symptom: Dirty Background (Overtoning)

Cause: Too much toner was supplied to the PCU because of a low q/m in the toner due to the following conditions.

1. After pre-setting the machine, it was not used for a few days.
2. Low copy volume machines had this problem after a vacation of more than 3 weeks.
3. Chemical reaction with ammonia gas, etc.

Action Required:

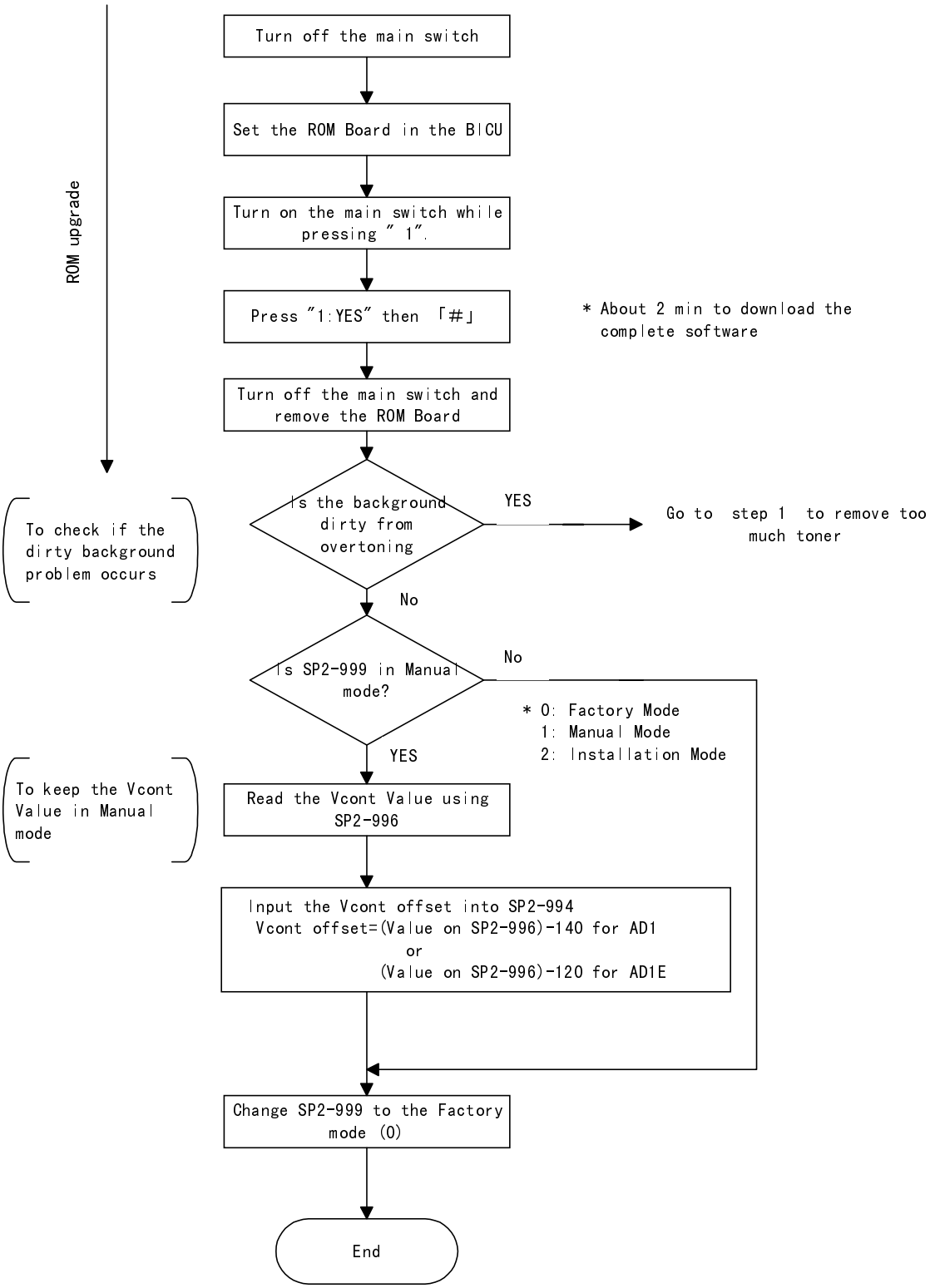
The new BICU Firmware has been released for the dirty background problem for the following versions.

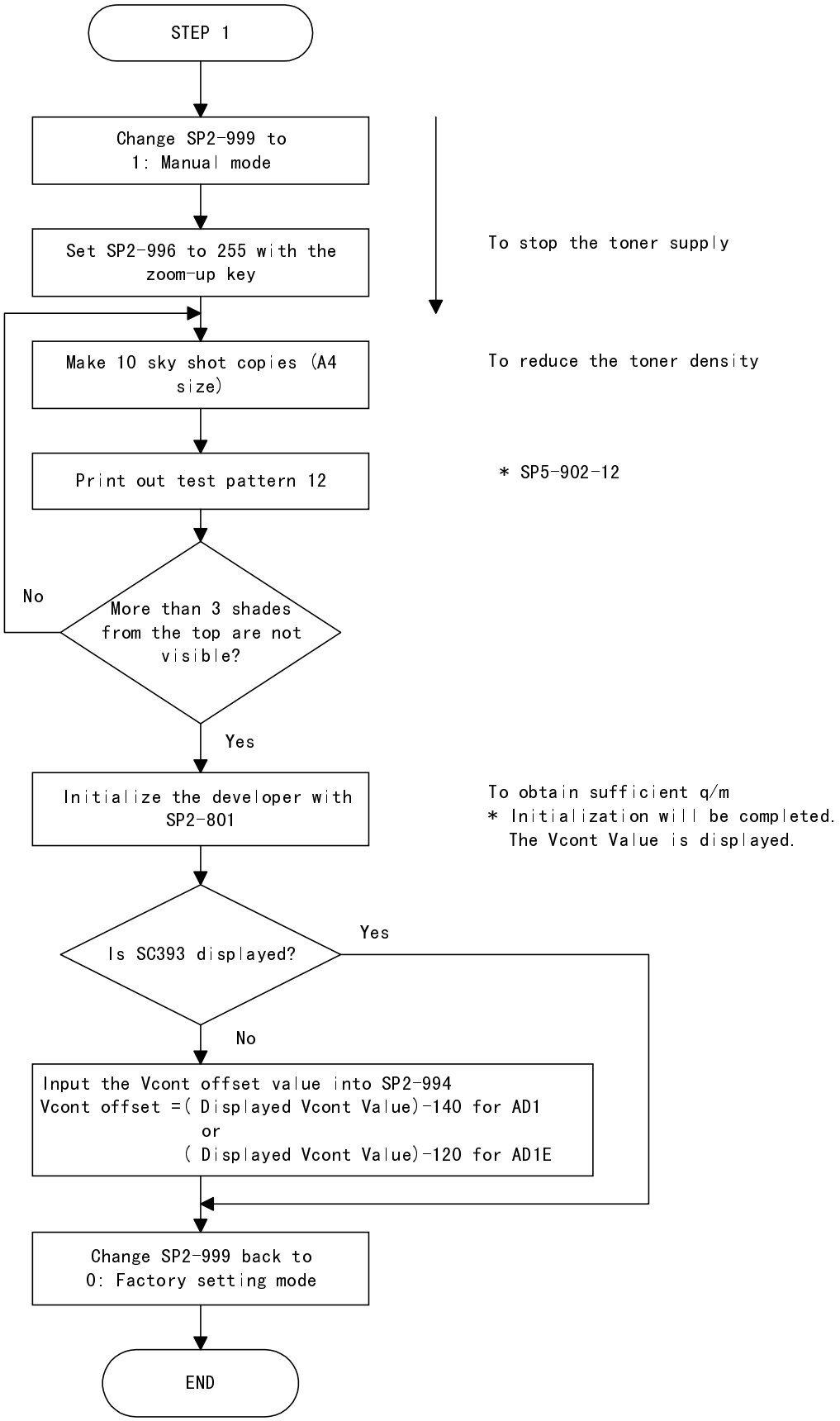
(AD1)	***(AD1E)***
A1935532 T (USA)	***A2245532 K (USA)***
A1935533 R (EU/Asia)	***A2245533 F (EU/Asia)***
A6485570 M (EU2)	***A8105570 D (EU2)***
A6485573 D (EU3)	***A8105573 D (EU3)***
A6485574 D (EU4)	***A8105574 D (EU4)***
A6485572 H (China)	
A1935534 E (Taiwan)	

The new firmware has the countermeasure in which not too much toner is supplied, as shown on the attached sheets (refer to the 4th and 5th pages).
Download the above software into the BICU board at installation or at emergency maintenance using the attached procedure if the machine has the previous version software.

Model: AD1/AD1-E	Date: 20-Oct-97	No: 42A

Upgrade Procedure


ROM upgrade
Turn off the main switch
Set the ROM Board in the BICU
Turn on the main switch while pressing " 1".
Press "1:YES" then 「#」
* About 2 min to download the complete software
Turn off the main switch and remove the ROM Board
To check if the dirty background problem occurs
Is the background dirty from overtoning
YES
Go to step 1 to remove too much toner
No
Is SP2-999 in Manual mode?
No
* 0: Factory Mode
1: Manual Mode
2: Installation Mode
YES
To keep the Vcont Value in Manual mode
Read the Vcont Value using SP2-996
Input the Vcont offset into SP2-994
Vcont offset=(Value on SP2-996)-140 for AD1
or
(Value on SP2-996)-120 for AD1E
Change SP2-999 to the Factory mode (0)
End


STEP 1
Change SP2-999 to 1: Manual mode
Set SP2-996 to 255 with the zoom-up key
To stop the toner supply
Make 10 sky shot copies (A4 size)
To reduce the toner density
Print out test pattern 12
* SP5-902-12
No
More than 3 shades from the top are not visible?
Yes
Initialize the developer with SP2-801
To obtain sufficient q/m
* Initialization will be completed. The Vcont Value is displayed.
Is SC393 displayed?
Yes
No
Input the Vcont offset value into SP2-994
Vcont offset =(Displayed Vcont Value)-140 for AD1
or
(Displayed Vcont Value)-120 for AD1E
Change SP2-999 back to 0: Factory setting mode
END

< PERMANENT COUNTERMEASURE >

The firmware will be improved for this problem as follows.
This firmware will be available from the middle of October production '97.

1. The default of the Vcont value will be corrected.
   AD1 : approx 140 (Current) ---> 10 is added to the default. (150: New for USA)
   ---> 20 is added to the default. (160: New for EU/ASIA)
   AD1E : approx 120 (Current) ---> 10 is added to the default. (130: New for USA)
   ---> 20 is added to the default. (140: New for EU/ASIA)
   The added value is stored in the new SP mode 2-994.

2. Initializing time will be longer. When a new PCU is installed, the machine initializes the PCU to attain a sufficient q/m for the toner. Its time has been changed from 3 min to 5 min.

3. Mixing time will be added.
   The required mixing time for the developer will be calculated by comparing the difference between the previous VT and the latest one. The latest VT will be checked when the main switch is turned on or the machine is not used for more than 12 hours.

   The table below will decide the mixing time.

Previous VT - Latest VT	Mixing Time (s)
-0.1	10
-0.2	30
-0.3	100
-0.4	300
0.5-	500

   The developer will be mixed for 30 s after every printing job.
   Then, 30 s will be deducted from the required mixing time (determined by the above table) till it is over.

   Note
   If the machine is not run for a long time (at the week-end or during a vacation), the machine will maintain the mixing of the developer unit to keep a sufficient toner q/m.

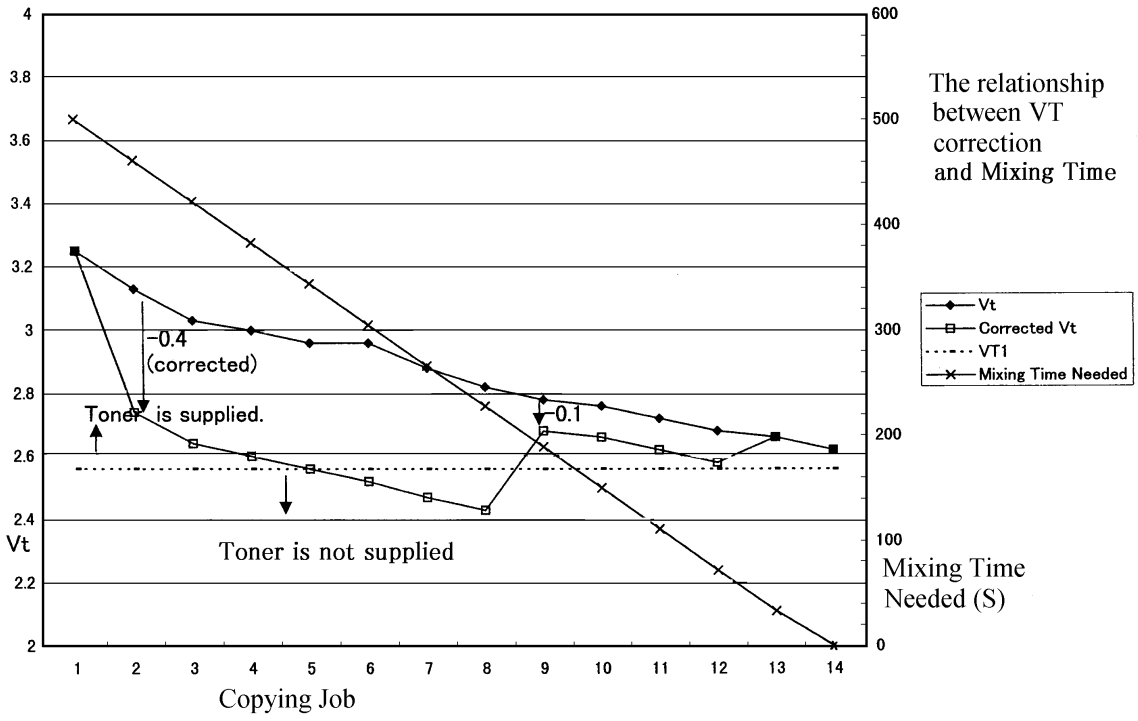
4. The Vt value is corrected.
   If any mixing time (item 3) remains, the Vt value is corrected as shown in the table below.

Remaining mixing time (s)	Vt correction
-100	0
-200	0.1
-300	0.4
-500	0.4

Note

If mixing time remains, Vt is corrected and toner is not supplied as easily.

* Items 3 and 4 are not available in Manual setting mode (SP2-999).



Model: ISDN Option	Date: 15-Dec-97	No: 46
Subject: US National ISDN	Prepared by: K.Hattori	
From: IPP Business Division Technical Service Dpt.		

Classification:

☐ Troubleshooting	☐ Part information	☐ Action required
☐ Mechanical	☐ Electrical	☒ Service manual revision
☐ Paper path	☐ Transmit/receive	☐ Retrofit information
☐ Other ( )		

This bulletin informs the settings required when the machine is connected to the US National ISDN network

Models: ADAM

- **Subscriber Number**

Input the subscriber number given by the telephone company at :

1.G4 SUBSCRIBER NO.1 (MAIN)

2.G3 SUBSCRIBER NO.1 (MAIN)

- **SPID Number (Service Profile Identification Number)**

Input the SPID number given by the telephone company at :

1.G4 SUBSCRIBER NO.2 (Sub)

2.G3 SUBSCRIBER NO.2 (Sub)

Note: Input a "_" (pause) before the SPID number.

- **G4 Internal Switches**

SW No.	Bit	Setting	Definition
SW11	Bit 1	0: Dynamic TEI	Type of TEI used (Layer 2) (Default)
SW13	Bit 2	1: Yes	Attachment of calling party number (L3 SET UP)
	Bit 5	1: Yes	Attachment of channel information element (L3 CONN)
SW14	Bit 0	1: Speech	ISDN G3 information transfer capability (L3)
	Bit 5	1: Keypad facility	Called ID mapping (L3)
SW15	Bit 7	1: On	Transmission of STAT in reply to STAT_ENQ received in the U0 state.
SW19	Bit 0	1: Permanent	Permanence of the link (L2)
	Bit 2	1: On	SPID procedure (L2)
	Bit 3	1: On	G4 SPID procedure (L2)

Note: After completing a G4 service mode operation, turn off the machine and turn it back on to make the new settings take effect.

Model: PS330 (Paper Tray for AD1/AD1-E)	Date: 15-Dec-97	No: 47
Subject: Paper Feed Roller	Prepared by: K.Ugaeri	
From: QAC Field Information Dept.		

Classification:	☒ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

SYMPTOM: Paper jam

CAUSE: Paper skewing or no feed from PS330 (Paper Tray)

Countermeasure: The diameter of the paper feed roller has been modified from 30ϕ to 32ϕ to improve paper feed.

Action Required: Ricoh has prepared a countermeasure roller kit for the machines in the field and sent them to each subsidiary.

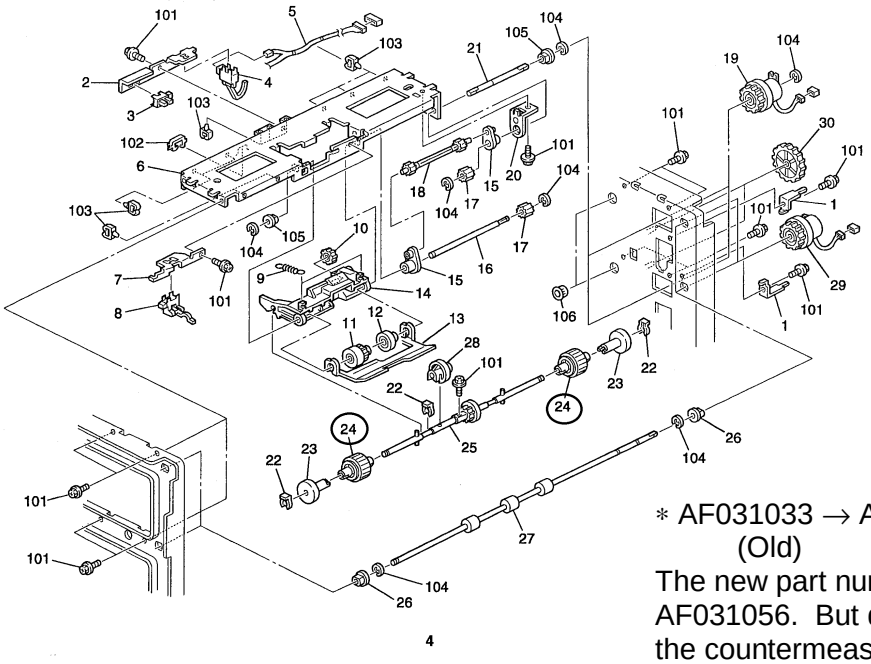
RC: 2150 sets (4 rollers/set)

RE: 3750 sets (4rollers/set)

RH: 374 sets (4rollers/set)

∗ Use these new rollers for machines which have the paper jam problem.

2. Paper Feed Section (G697)



∗ AF031033 → AF031056
(Old) (New)

The new part number of the feed roller is AF031056. But do not order this part until the countermeasure kit is out of stock.

∗The new rollers are available from September production '97

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RTB Correction

Reissue date: **15-Jan-98**

The items in bold italic have been corrected or added.

Model: AD1		Date: 15-Dec-97	No: 14D
Subject: ROM History (AD1-FAX Option)		Prepared by: K.Ugaeri	
From: QAC 2nd Field Information Dept.			
Classification:	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☒ Retrofit information
	☐ Other ( )		

AD1-Fax option firmware history.

USA

A1945581	File No. (A194uxx)	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
C	03	1.23	DD95	CB2A	27F0	BD19	72A5	1st Mass Prod.
D	04	1.29	E6D7	83C2	E9BD	47BC	7F1A	November Prod.'96
E	05	1.38	EAAE	A99A	5C74	919A	5A3A	December Prod.'96
F	06	1.48	5029	5D2A	E457	1FF3	4ED2	March Prod.'97
G	07	1.58	2AEF	27EO	FD88	286A	E367	May Prod.'97
H	08	1.77	43BO	3357	84BC	EAA2	C5F4	August Prod.'97

Europe/Asia

A1945582	File No. (A194exx)	Version	Total C.SUM	SUM (OH)	SUM (OL)	SUM (1H)	SUM (1L)	Production
B	02	1.23	3A44	0A20	FC8A	691F	FEBA	1st Mass Prod.
C	03	1.29	3270	D0F9	39CD	F1E6	19A3	November Prod.'96
D	04	1.38	3745	FA2F	B98C	C966	E8B9	December Prod.'96
E	05	1.48	***ABC7***	***EEBA***	***0F84***	***A0D9***	***0943***	March Prod.'97
F	06	1.58	8D00	FFBE	C502	1BB4	55FE	May Prod.'97
(G)	07t	1.78	C19B	E4F1	FF0B	9B9F	3290	Temporary
G	07	1.79	C2A4	E4F2	FF14	9B9F	3290	August Prod.'97
H	08	1.80	A450	E271	3B61	930F	E8EF	October Prod.'97

MB Correction

Reissue date: **15-Jan-98**

The items in bold italics have been corrected or added.

Model: AD1-E	Date: 15-Oct-97	No: 40B
Subject: ROM History (AD1-E Copy Version)	Prepared by: K.Ugaeri	
From: QAC Field Information Dept.		

Classification:

- ☐ Troubleshooting
- ☐ Part information
- ☐ Action required
- ☐ Mechanical
- ☐ Electrical
- ☐ Service manual revision
- ☐ Paper path
- ☐ Transmit/receive
- ☒ Retrofit information
- ☐ Other ( )

AD1-E (Copy) firmware history.

USA

A2245532	File No. (A224uxx)	Version	Total C.SUM	SUM(OH)	SUM(***OL***)	Production
D	01	1.18	7766	6521	1245	1st Mass Prod.
E	02	1.20	01F7	98CE	6929	June Prod. '97
F	03	1.24	D441	9943	3AFE	August Prod. '97
H	04	1.26	C879	5895	6FE4	September Prod. '97
K	06	1.30	432E	144E	2EE0	October Prod. '97

Europe/Asia

A2245533	File No. (A224exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)	Production
B	101	1.20EU1	46A8	65C6	E0E2	1st Mass Prod.
C	102	1.24EU1	F12D	8333	6DFA	August Prod. '97
D	103	1.26EU1	6693	55DF	10B4	September Prod. '97
F	105	1.30EU1	6F80	F07D	7F03	October Prod. '97

Europe 2nd Language

A8105510(OL) A8105511(OH)	File No. (A224exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
A	202	1.24EU2	9FB1	FAE8	A4C9
B	203	1.26EU***2***	***F29A***	***D4BF***	***1DDB***
D	205	1.30EU***2***	76E6	6ED6	0810

MB Correction

Reissue date: **31-Jan-97**

The items in bold Italics have been corrected or added.

Model: AD1/AD1-E		Date: 20-Oct-97	No: 42B
Subject: Dirty Background Problem		Prepared by: K.Ugaeri	
From: QAC Field Information Dept.			
Classification:	☒ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

Symptom: Dirty Background (Overtoning)

Cause: Too much toner was supplied to the PCU because of a low q/m in the toner due to the following conditions.

1. After pre-setting the machine, it was not used for a few days.
2. Low copy volume machines had this problem after a vacation of more than 3 weeks.
3. Chemical reaction with ammonia gas, etc.

Action Required:

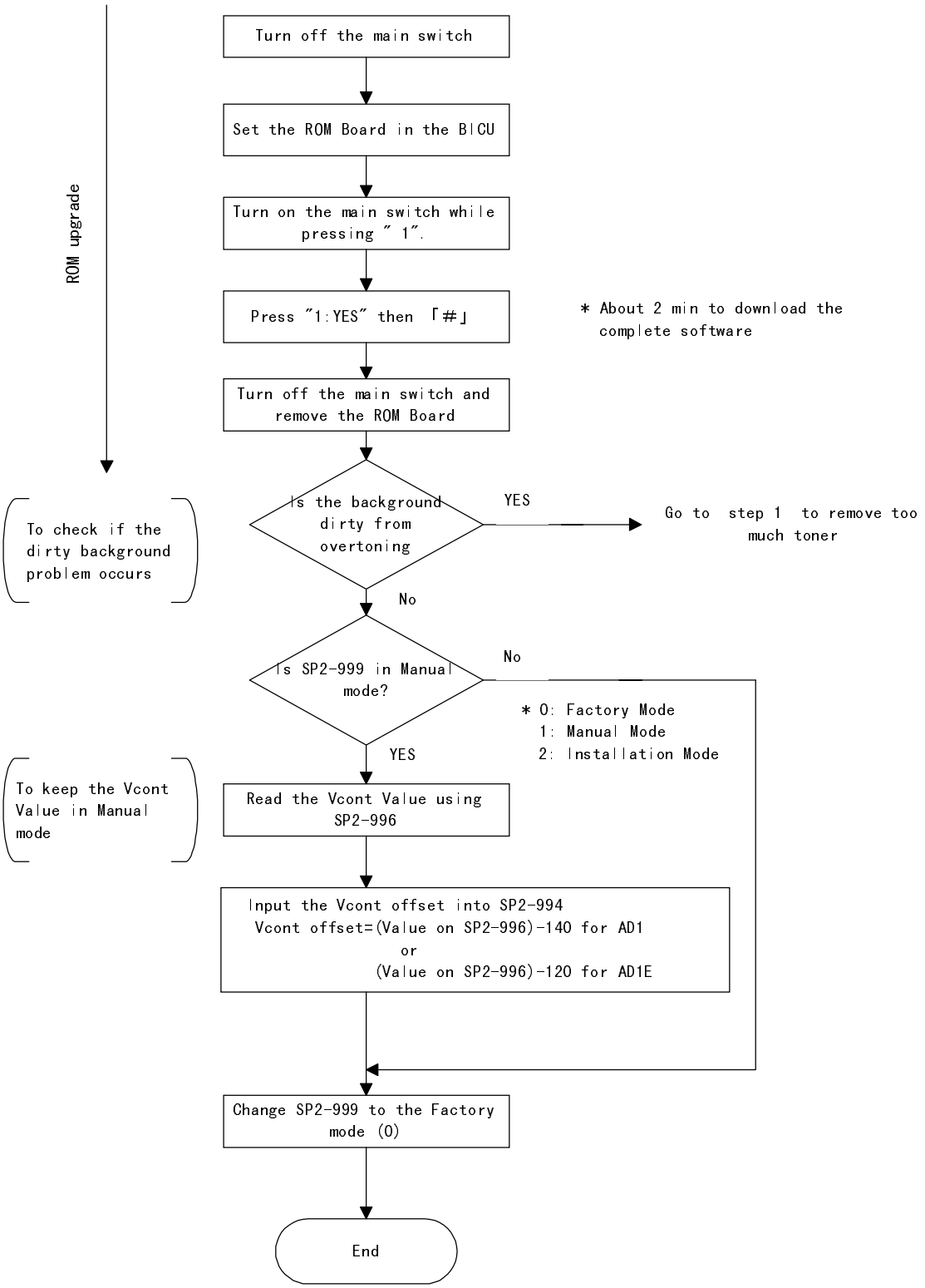
The new BICU Firmware have been released for the dirty background problem from the following versions.

(AD1)	(AD1E)
A1935532 T (USA)	A2245532 K (USA)
A1935533 R (EU/Asia)	A2245533 F (EU/Asia)
A6485570 M (EU2)	A8105570 D (EU2)
A6485573 D (EU3)	A8105573 D (EU3)
A6485574 D (EU4)	A8105574 D (EU4)
A6485572 H (China)	
A1935534 E (Taiwan)	

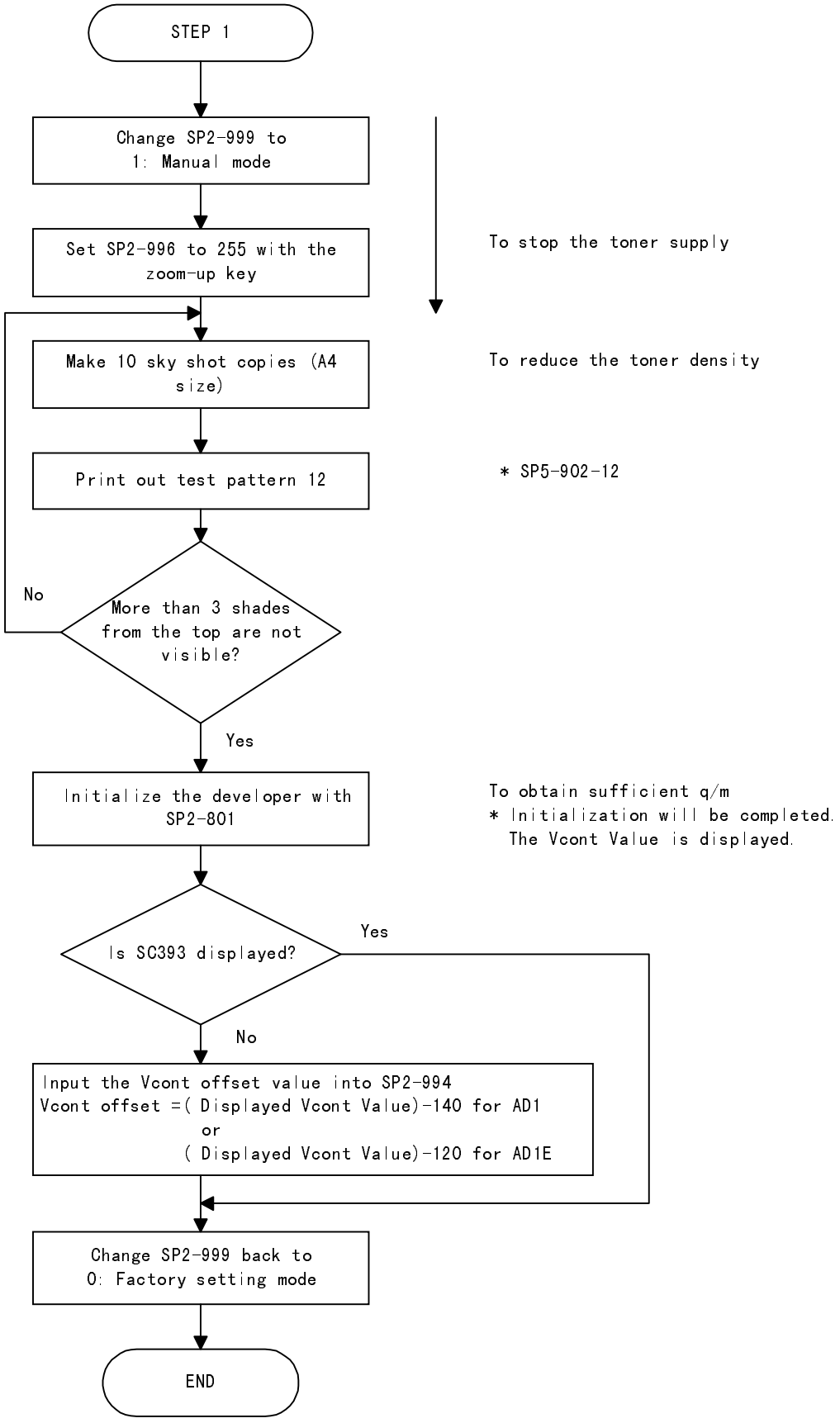
The new firmware has the countermeasure in which not too much toner is supplied, as shown on the attached sheets (refer to the 4th and 5th pages).
Download the above software into the BICU board at installation or at emergency maintenance using the attached procedure if the machine has the previous version software.

Model: AD1/AD1-E	Date: 20-Oct-97	No: 42A

Upgrade Procedure


ROM upgrade
Turn off the main switch
Set the ROM Board in the BICU
Turn on the main switch while pressing " 1".
Press "1:YES" then 「#」
* About 2 min to download the complete software
Turn off the main switch and remove the ROM Board
To check if the dirty background problem occurs
Is the background dirty from overtoning
YES
Go to step 1 to remove too much toner
No
Is SP2-999 in Manual mode?
No
* 0: Factory Mode
1: Manual Mode
2: Installation Mode
YES
To keep the Vcont Value in Manual mode
Read the Vcont Value using SP2-996
Input the Vcont offset into SP2-994
Vcont offset=(Value on SP2-996)-140 for AD1
or
(Value on SP2-996)-120 for AD1E
Change SP2-999 to the Factory mode (0)
End

Model: AD1/AD1-E	Date: 20-Oct-97	No: 42A


STEP 1
Change SP2-999 to 1: Manual mode
Set SP2-996 to 255 with the zoom-up key
To stop the toner supply
Make 10 sky shot copies (A4 size)
To reduce the toner density
Print out test pattern 12
* SP5-902-12
No
More than 3 shades from the top are not visible?
Yes
Initialize the developer with SP2-801
To obtain sufficient q/m
* Initialization will be completed. The Vcont Value is displayed.
Is SC393 displayed?
Yes
No
Input the Vcont offset value into SP2-994
Vcont offset =(Displayed Vcont Value)-140 for AD1
or
(Displayed Vcont Value)-120 for AD1E
Change SP2-999 back to 0: Factory setting mode
END

DETAILS

The firmware has been improved to deal with this problem as shown below.

1. The default of the Vcont value will be corrected.
   AD1 : approx 140 (Current) ---> 10 is added to the default. (150: New for USA)
   ---> 20 is added to the default. (160: New for EU/ASIA)
   AD1E : approx 120 (Current) ---> 10 is added to the default. (130: New for USA)
   ---> 20 is added to the default. (140: New for EU/ASIA)
   The added value is stored in the new SP mode 2-994.

2. Initializing time will be longer. When a new PCU is installed, the machine initializes the PCU to attain a sufficient q/m for the toner. Its time has been changed from 3 min to 5 min.

3. Mixing time will be added.
   The required mixing time for the developer will be calculated by comparing the difference between the previous VT and the latest one. The latest VT will be checked when the main switch is turned on or the machine is not used for more than 12 hours.

   The table below will decide the mixing time.

Previous VT - Latest VT	Mixing Time (s)
-0.1	10
-0.2	30
-0.3	100
-0.4	300
0.5-	500

   The developer will be mixed for 30 s after every printing job.
   Then, 30 s will be deducted from the required mixing time (determined by the above table) till it is over.

   Note
   If the machine is not run for a long time (at the week-end or during a vacation), the machine will maintain the mixing of the developer unit to keep a sufficient toner q/m.

4. The Vt value is corrected.

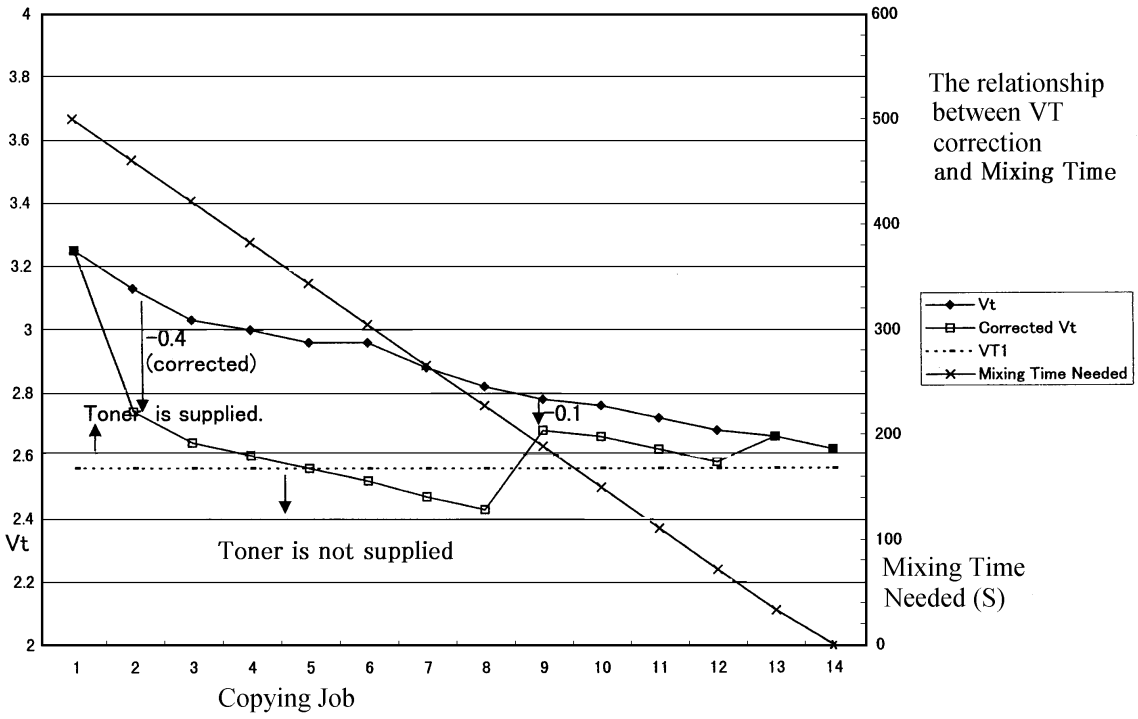
If any mixing time (item 3) remains, the Vt value is corrected as shown in the table below.

Remaining mixing time (s)	Vt correction
-100	0
-200	0.1
-300	0.4
-500	0.4

Note

If mixing time remains, Vt is corrected and toner is not supplied as easily.

* Items 3 and 4 are not available in Manual setting mode (SP2-999).



RTB Correction
Reissue date : **15-Jun-98**
The items in bold italics have been corrected or added.
The illustration has changed as shown below.

Model: AD1(LCT Option)		Date: 31-Jan-98	No: 48A
Subject: Paper jam and Noise		Prepared by: K.Ugaeri	
From: QAC Field Information Dept.			
Classification:	☒ Troubleshooting	☒ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

During an internal test, the following problems were found and some parts have been improved from December production '97.

SYMPTOM

1. The grounding plate (A6676151) was broken at installation.
2. Paper jam
3. Noise

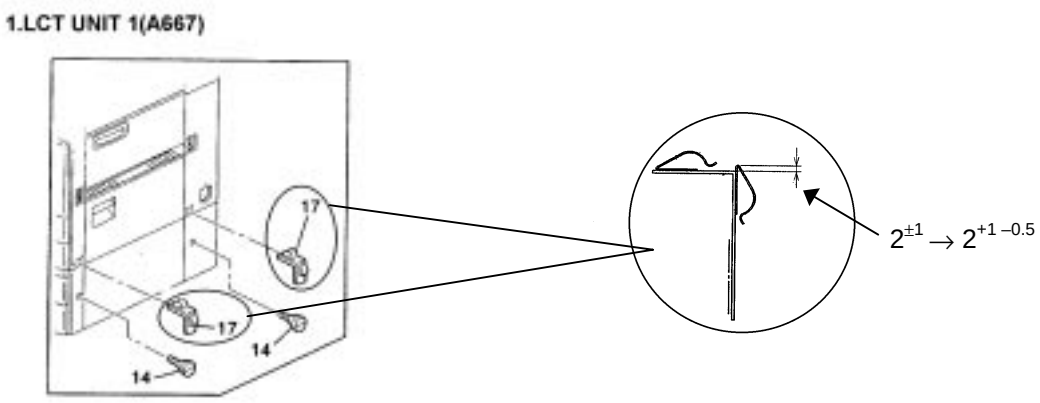
CAUSE

1. When the LCT is installed on the main frame, the spring plate might be cracked.
2. When the dust rubbed off the timing belt gets between the timing pulley and the drive shaft, the rotation of the pulley is affected and paper jams might occur.
3. Rotation noise from the relay roller (but the noise level is still within specification)

COUNTERMEASURE

1. When installing the LCT, take care not to press the grounding plate too hard.

Permanent countermeasure
The shape of the grounding plate has been modified (A6676151->A6676151A) and RCL will supply the countermeasure parts to each subsidiary.
RC : 50 sets
RE : 80 sets
RH : 20 sets



2. Clean the drive shaft of the timing pulleys (P7 – Index 24,***25,27***).

Permanent Countermeasure

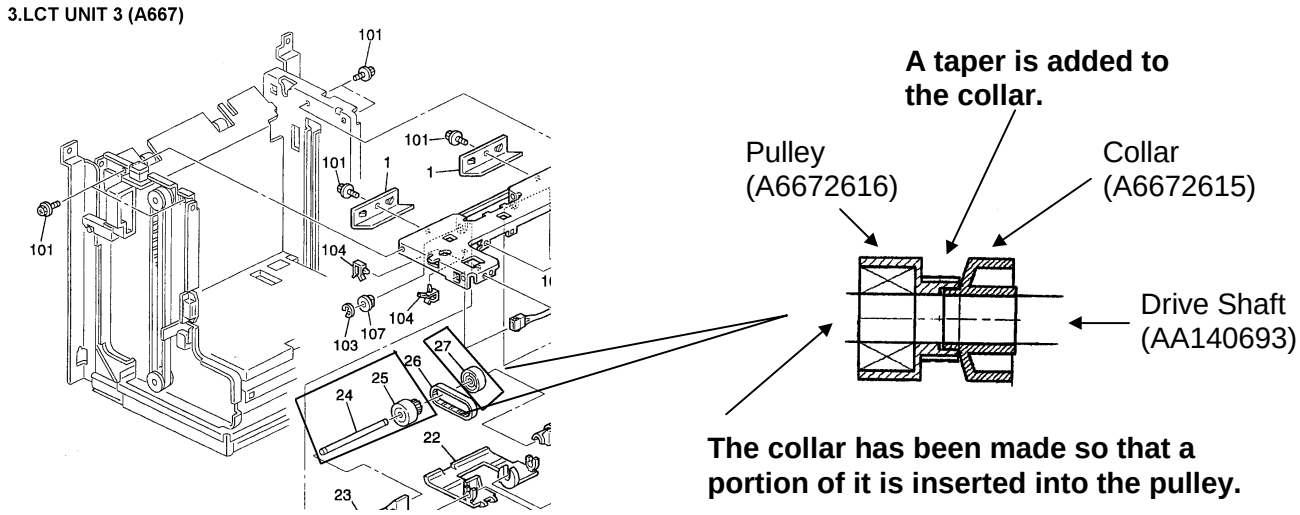
To prevent this problem in the LCT , the material of the shaft and the shape of the pulley and collar have been modified to reduce the dust from the timing belt and to prevent the dust from getting into the pulley . RCL will supply the countermeasure parts to each subsidiary.

RC : 100 sets
RE : 160 sets
RH : 40 sets

1. AA140627 → AA140693 ***Drive Shaft – Feed Roller***
2. H5154713 → A6672615 ***Timing Pulley Collar – 6x8***
3. H5154714 → A6672616 ***Timing Pulley – 22Z***

} X/O as a combination

The interchangeability for these parts is available as a combination.



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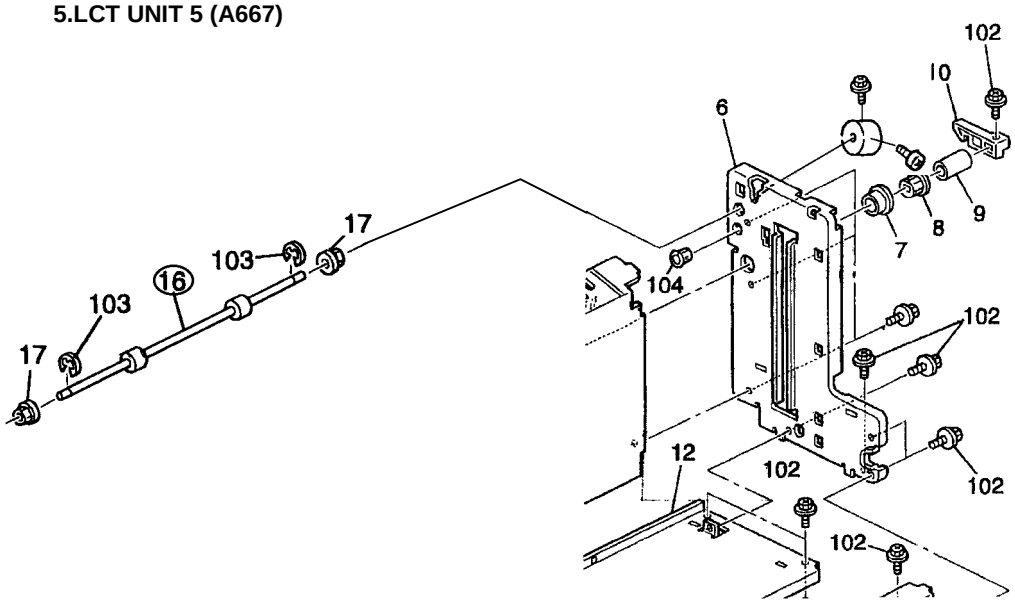
3. Lubricate the shaft of the feed rollers.

Permanent Countermeasure
To reduce the rotation noise from the relay roller, a fly wheel is added to stabilize the rotation. The material of the shaft and the shape of the timing pulley have been modified.

5.LCT UNIT 5 (A667)



RTB Correction
Reissue date: **15-Feb-98**
The items in bold italic have been corrected or added.

Model: AD1-Printer Type 250	Date: 23-Jul-97	No: 35C
Subject: Firmware and Software History	Prepared by: K.Ugaeri	
From: QAC Field Information Dept.		

Classification:

☐ Troubleshooting	☐ Part information	☐ Action required
☐ Mechanical	☐ Electrical	☐ Service manual revision
☐ Paper path	☐ Transmit/receive	☒ Retrofit information
☐ Other ( )		

A. Firmware for Controller Type 250.
1. History and Checksum List.

Ver	Check Sum		Released on
	U23	U24	
1.37	***C722***	***1E0C***	***'97.12.17***
1.35	3301	1D08	'97.9.30
1.32	8FD5	3EFD	'97.8.26
1.26	3EC3	64E8	'97.6.10
(1.24)	F38F	AC48	Temporary ('97.5.28)
(1.21)	7A04	AC4F	Temporary ('97.5.20)
1.08	59BA	F0C2	'97.4.2
1.07	901F	6D97	'97.2.2
1.06	5DAD	1E45	'96.12.17
1.03			1st Mass Prod. ('96.12.5)

2.Corrected Symptom

	Ver.
In the Dutch version, the expressions of "On" and "Off" are incorrect.	***1.37***
When printing a banner page in a staple job, the banner page is printed incorrectly.	1.35
Resource saving on the test page indicates "1219 kbytes allocated of 1219 kbytes available." It should be "0 Kbytes allocated of ..."	
When printing in Raster mode with custom paper size setting, output is incorrect.	
The Line Per Page setting value in the PCL menu was changed after power was switched off/on.	1.32
While data is in the print queue, if you press the Job Reset key, some problems may occur.	
While data is in the print queue, either Memory Overflow or Lock Up occured. (Acrobat, Page Maker)	
After printing 300 dpi data, only half of the 600 dpi data is printed out,.	
Image cut off if the previous job was printed using long edge feed (300 dpi) and the current job is printed with short edge feed (300 dpi).	
After printing data for a small paper size, if you print data for a bigger paper size, only data to fill the previous paper size is printed out.	

Model: AD1-Printer Type 250	Date: 23-Jul-97	No: 35C

	Ver.
After printing a job using staple mode, if sending another job which changed the Page Protection Mode from the previous job's setting, sometimes it does not work, and the data stays in the print queue.	1.32
When setting User Code, if you send data to print while the LCD shows "Input user code...", it does not work without pressing the offline / online key even if you input the User Code.	
Side-to-side motion of the finisher does not work in the energy save and night timer mode.	1.26
The demo page cannot be printed. (∗This is a problem only for version 1.24)	
Lock-up occurs occasionally while the printing data is being stored on the HDD due to a sector control failure.	
Lock-up when the job reset button is pressed during data storage.	(1.24)
The finisher is supported.	(1.21)
Print overrun because of access time to HDD. The band buffer is increased from 660KB to 4MB. ∗ ∗ If the controller has a HDD, more than 4MB of SIMM memory must be added.	
General Protection Fault during Landscape Printing in Raster mode.	
Output of a Genoa FTS file is different from that of HP (∗ ∗Genoa FTS file).	1.08
Page ordering is wrong. (∗ ∗ For duplex printing, interleave on, and interrupt copying)	
The printer hangs up when printing word data with lines shaded with colours as HP/GL. (∗ Duplex printing, HP/GL mode and coloured lines)	1.07
Paper jam in Duplex mode when an A4 size page is printed on A3 paper.	

B. Driver Software for Win 3.1/Win 95

1. History List

Ver	Released on
2.11	***'97.12.17***
2.00	'97.7.9
1.30	'97.5.19
1.21	'97.4.2
1.10	'97.2.2
1.00	1st Mass Prod.('96.12.5)

2. Corrected Symptoms

	Ver.
1) When you set Lines Per Page to a small value and print Landscape data, the top margin will be shifted down. ***2) PageMaker 6.5 and Word Perfect 8.0, duplex setting is disabled (grayed out) in the application's setting boxes.*** ***3) Help file*** ***(1) The wording "External Tray (F/U)" has been deleted. This may confuse users who don't understand that External Tray and External Tray (F/U) are the same thing.*** ***(2) In the Staple section, the first sentence contains a mistake.*** ***(3) In the Printer Memory section, it says that the printer self test page shows the memory size in KB. The test page actually shows it in MB.*** ***4) The default setting of Page Protect is changed from On to Auto.*** ***5) A driver installation error occurs when you install using Add Printer.***	***2.11***
1) Even if setting True Type Mode to " Download as True Type ", it is output as a bit image. 2) When printing Hound.doc with Win 3.1, a part of the Univers Font was printed incorrectly. 3) When setting B5 Env.in the Bypass Tray, WinPanel shows "Add F4 paper into Bypass Tray." 4) When installing Win95 driver by Add Printer, the help File was not installed.	2.00
The finisher is supported.	1.30
In Raster mode, a part of the graphic data cannot be printed correctly.	1.21
Power Point for Windows 95 cannot print raster Images.	1.10

C. Host Panel for DOS

1.History List

Ver	Released on
1.02	'97.5.25
1.01	'97.4.2
1.00	1st Mass Prod. ('96.12.5)

2. Corrected Symptom

	Ver.
Profile which has the Host Panel setting information in Duplex mode cannot be opened correctly.	1.02
TBA (To Be Announced)	1.01

MB Correction

Reissue date: **15-Feb-98**

The items in bold italics have been corrected or added.

Model: AD1E-Printer Type 251	Date: 30-Nov-97	No: 45A
Subject: Firmware and Software HIstory	Prepared by: K.Ugaeri	
From: QAC Field Information Dept.		

Classification:

☐ Troubleshooting	☐ Part information	☐ Action required
☐ Mechanical	☐ Electrical	☐ Service manual revision
☐ Paper path	☐ Transmit/receive	☒ Retrofit information
☐ Other ( )		

A. Firmware for Controller Type 251.

1. History and checksum List.

Ver	Check Sum		Released on
	U23	U24	
5.15	***8C25***	***AC42***	***'97.12.17***
5.13	DB12	A541	'97.9.30
5.09	0E06	D22F	'97.8.26
5.04			1st Mass Prod.

2.Corrected Symptoms

	Ver.
For the Dutch version, the expressions of "On" and "Off" are incorrect.	***5.15***
When printing a banner page in a staple job, the banner page is printed incorrectly.	5.13
Resource saving on the test page indicates “1219 kbytes allocated of 1219 Kbytes available.” It should be “0 kbytes allocated of ...”	
When printing with raster mode and custom paper size setting, output is incorrect.	
After printing a job using staple mode, if sending another job which changed the Page Protection Mode from the previous job’s setting, sometimes it does not work, and the data stays in the print queue.	5.09
When setting a User Code, if you send data to print while the LCD shows “Input user code...”, it does not work without pressing the offline / online key even if you input the User Code.	

B. Driver Software for Win 3.1/Win 95

1. History List

Ver	Released on
2.11	***'97.12.17***
2.00	1st Mass Prod.

2. Corrected Symptom

	Ver.
1) When you set Lines Per Page to a small value and print Landscape data, the top margin will be shifted down. ***2) Pagemaker 6.5 and Word Perfect 8.0, duplex setting is disabled (grayed out) in the application's setting boxes.*** ***3) Help file*** ***(1) The wording "External Tray (F/U)" has been deleted. This may confuse users who don't understand that External Tray and External Tray (F/U) are the same thing.*** ***(2) In the Staple section, the first sentence contains a mistake.*** ***(3) In the Printer Memory section, it says that the printer self test page shows the memory size in KB. The test page actually shows it in MB.*** ***4) The default setting of Page Protect is changed from On to Auto.*** ***5) A driver install error occurs when you install using Add Printer.***	***2.11***

C. Host Panel for DOS

1. History List

Ver	Released on
1.02	1st Mass Prod.

RICOH

Technical Bulletin

Model: Adam	Date: 15-Feb-98	No: 49
Subject: PC-Fax Expander Type 250	Prepared by: Y. Furuya	
From: Technical Service Department.		

Classification:

- ☐ Troubleshooting
- ☐ Part information
- ☐ Action required
- ☐ Mechanical
- ☐ Electrical
- ☐ Service manual revision
- ☐ Paper path
- ☐ Transmit/receive
- ☐ Retrofit information
- ☒ Other (Service manual for new option)

The service manual for the PC-Fax Expander Type 250 (12 pages) follows.

SERVICE MANUAL
PC-FAX EXPANDER TYPE 250

February 9th, 1998
Subject to change

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1. OVERALL INFORMATION

1.1 SPECIFICATIONS

Item	Description
PC Fax Interface	EIA/TIA Class 2 (Class 1 is not supported)
Host Interface Connector	EIA/TIA RS232C DB25 female connector
Scanner	TWAIN interface Maximum resolution: 200 x 200 dpi

1.2 FEATURES

- Class 2 fax transmission directly from a host PC
  (PC fax application required)
- Class 2 fax transmission through SAF memory
  (PC fax application required)
- Class 2 fax reception directly to a host PC
  (PC fax application required)
- Class 2 fax reception through SAF memory
  (PC fax application required)
- Local printing from a PC fax application
  (PC fax application required)
- Local scanning from the machine's scanner using TWAIN API
  (CFM Twain driver required)

2. DETAILED DESCRIPTIONS

2.1 AT COMMANDS AND RESPONSES

2.1.1 CLASS 0 COMMANDS

Command	Function	Remarks
ATA	Answer	
ATD	Dial	
ATE	Command echo	
ATH	Switch-hook control	
ATI	Identification	
ATL	Speaker volume	
ATM	Speaker control	
ATP	Set pulse dial as default	The machine returns OK, but the function is not supported.
ATQ	Result code display	
ATS	S register	
ATT	Set tone dial as default	
ATV	Result code form	
ATX	Extended result codes	The machine returns OK, but the function is not supported.
ATZ	Reset	
AT&C	DCD option	The machine returns OK, but the function is not supported.
AT&D	DTR option	
AT&F	Restore factory configuration	

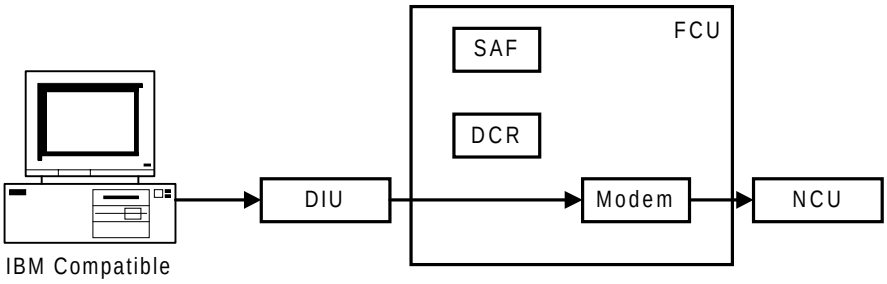
2.1.2 CLASS 2 COMMANDS

Command	Function	Remarks
AT+FCLASS?	Service class	The machine responds “22”.
AT+FMFR?	Identify manufacturer	The machine responds “RICOH(CF1)”.
AT+FLID	Local ID string	
AT+FBOR	Phase C data bit order	
AT+FCR	Capability to receive	The machine returns OK, but the function is not supported.
AT+FDCC	DCE capability parameters	
AT+FDIS	Current session parameters	
AT+FDT	Data transmission	
AT+FET	Transmit page punctuation	
AT+FDR	Phase C receive data	
AT+FMDL?	Identify model	The machine responds “PC-FAX EXPANDER (CF1)”.

Command	Function	Remarks
AT+FREV?	Identify revision	The machine responds with FCU ROM version and release date.
AT+FAA	Adaptive answer	The machine returns OK, but the function is not supported.
AT+FPHCTO	Phase C timeout	
AT+FECM	ECM parameter	
AT+FBUG	Session manager reporting parameter	
AT+FPTS	Page transfer status	
AT+FAXERR	Fax error value	The machine returns OK, but the function is not supported.
AT+FDCS	Current session results	
AT+FCQ	Copy quality capability parameter	The machine returns OK, but the function is not supported.
AT+FK	Session termination	
+FHNG	Call termination with status	
+FCON	Facsimile connection response	
+FCSI	Report the CSI	
+FTSI	Report the TSI	
+FCFR	Indicate CFR	

2.2 CLASS 2 FAX COMMUNICATION

2.2.1 DIRECT TRANSMISSION

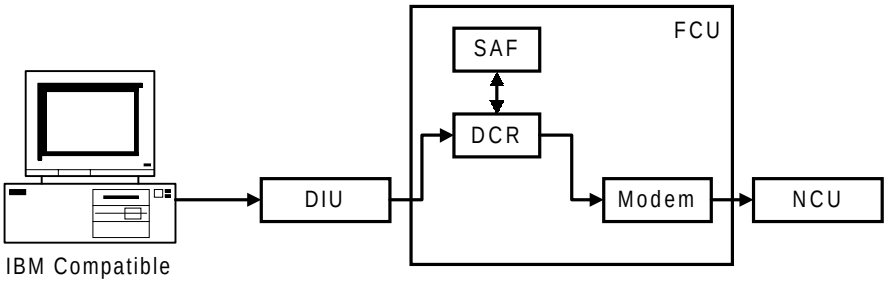


A824D001.WMF

The host computer sends commands and image data to the machine through the DIU during transmission.

NOTE: 1) Group dials programmed in the machine cannot be used.
2) ISDN G4 numbers programmed in quick or speed dials cannot be used.
3) If ISDN is selected for G3 communication (system switch 0A, bit 6), the G3 numbers must have been programmed in quick or speed dial.
4) T.30 optional protocols (e.g., BFT) are not supported by class 2 fax communication.

2.2.2 MEMORY TRANSMISSION

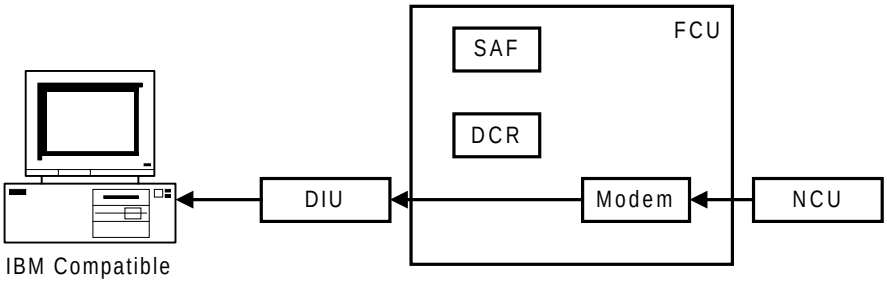


A824D002.WMF

The host computer sends destination number(s) and image data to the machine through the DIU during transmission. The machine stores the image in the SAF memory, then makes a fax transmission.

NOTE: 1) If the memory overflows while storing the first page into SAF memory, the machine does not start the transmission.
2) If the memory overflows while storing the second or subsequent page into SAF memory, the machine transmits all the successfully stored pages.
3) When fax numbers programmed in the machine's quick or speed dials are specified using the PC fax application, all the specified numbers must have been programmed in the fax machine.
4) T.30 optional protocols (e.g., BFT) are not supported by class 2 fax communication.

2.2.3 DIRECT RECEPTION

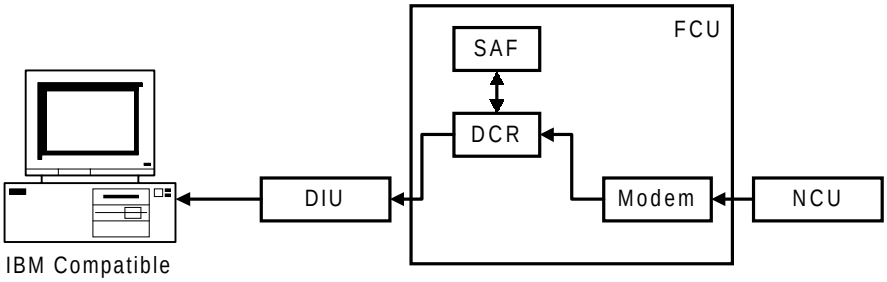


A824D003.WMF

The machine transfers received image data directly to the host PC without storing it into SAF memory.

NOTE: 1) If the host PC is not ready to receive a fax message, the machine receives the message into SAF memory.
2) Even if the SAF memory is full, the machine starts fax reception. However, the machine will not continue reception if the host computer is not ready to receive a message.
3) The “Number of rings to answer” parameter in the PC fax application must not exceed 4.

2.2.4 MEMORY RECEPTION



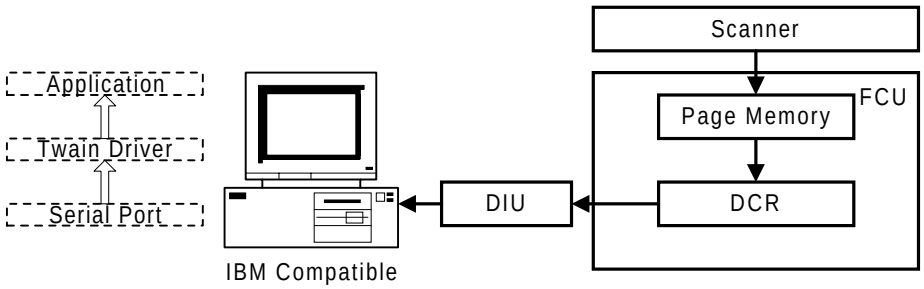
A824D004.WMF

The machine receives a fax message in the SAF memory, then transfers data to the host computer after the reception has finished. The machine prints the received message after transferring data to the host if user parameter 20 – bit 4 is set to “1: Print”.

NOTE: 1) If an error occurs due to cable disconnection, the PC fax application must be restarted to receive the message.
2) Memory reception is not possible when forwarding is enabled.
3) Manual reception from the PC fax application is not supported.
4) The “Number of rings to answer” parameter in the PC fax application must not exceed 4.

2.3 SCANNING AND PRINTING

2.3.1 SCANNING

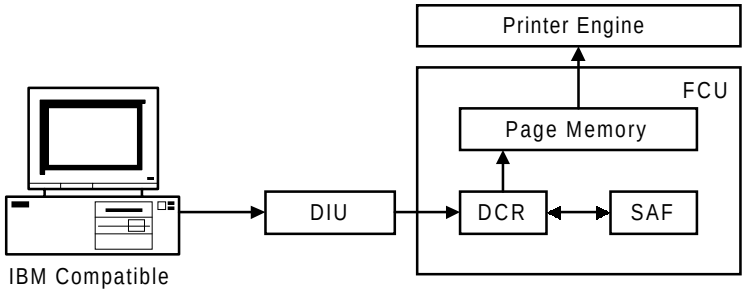


A824D005.WMF

The machine scans an original into page memory, then transfers the data to the host PC. The data is sent to the application through the CFM Twain driver.

NOTE: 1) The maximum resolution is 200 x 200 dpi.

2.3.2 PRINTING



A824D006.WMF

The machine receives print data into SAF memory as fax image data, then prints it after all the data has been transferred from the host PC.
The destination number “0000” informed from the host PC identifies a print job.

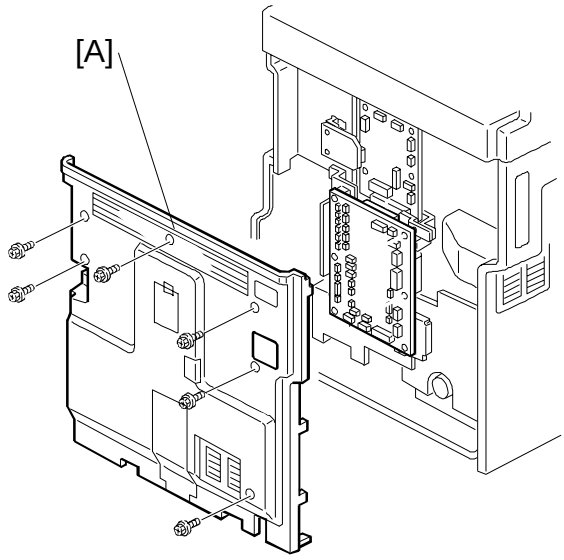
NOTE: 1) If SAF memory runs out while receiving print data, the machine prints up to the successfully received data.
2) The machine cannot receive print data while printing a message from the SAF memory. The data will be received after printing.
3) If a fax destination is specified together with the print destination “0000”, the destinations specified after “0000” will be delayed until the machine prints all pages in the message.

3. INSTALLATION

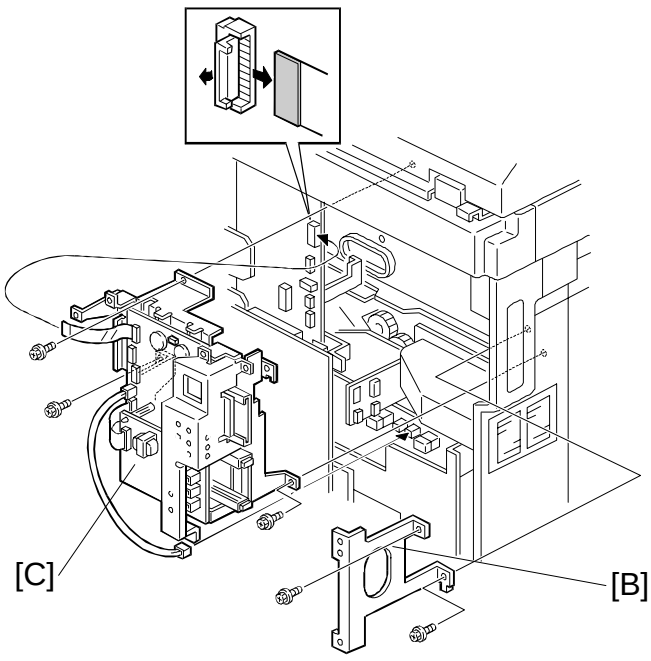
THIS OPTION MUST BE INSTALLED BY A CUSTOMER SERVICE REPRESENTATIVE WHO HAS COMPLETED THE TRAINING COURSES ON THE BASE COPIER AND THIS OPTION.

NOTE: 1) Never install telephone wiring during a lightning storm.
2) Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
3) Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
4) Use caution when installing or modifying telephone lines.
5) Avoid using a telephone (other than a cordless type) during an electric storm. There may be a remote risk of electric shock from lightning.
6) Do not use an telephone to report a gas leak in the vicinity of the leak.

⚠CAUTION
Before installing this option, switch off the main and ac switches, and disconnect the power cord.

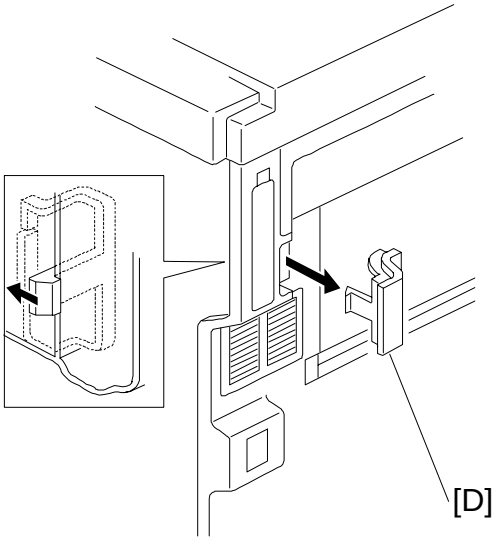


A225I601.CDR

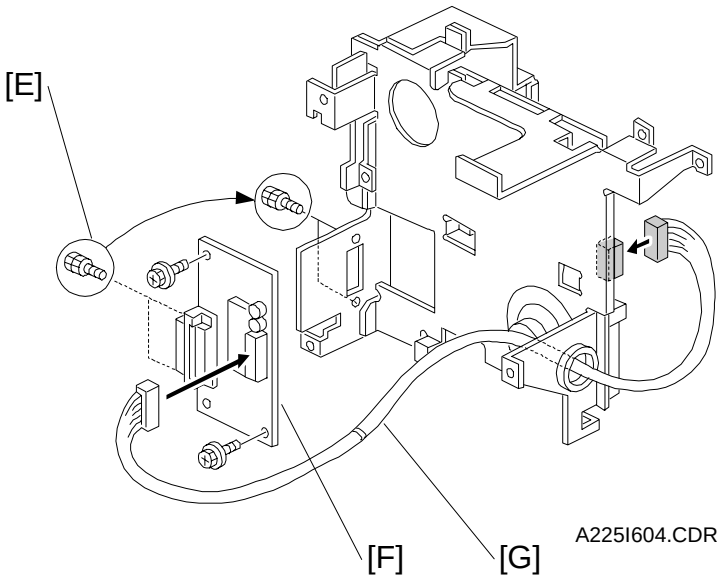


A225I602.CDR

1. Remove the rear cover [A] (6 screws).
2. Remove the bracket [B] (2 screws), or the fax unit [C] if it has been installed in the machine (13 screws, 2 brackets, 2 connectors).



A225I603.CDR



A225I604.CDR

3. Remove the cover [D] from the left side cover.
4. Remove the ISDN G4 interface from the fax unit if it is present (2 screws, 1 connector).
5. Remove two hexagonal screws [E] from the DIU.
6. Install the DIU (RS232C interface) [F] in the fax unit (4 screws, 2 of them are the hexagonal screws removed in the previous step).
7. Connect the harness [G] from the DIU to CN506 on the FCU as shown, and put back the ISDN G4 interface if it was removed in step 4.
8. Install the fax unit [C] (13 screws, 2 brackets, 2 connectors), and the rear cover [A] (6 screws).
9. Turn on the machine and print the system parameter list. If “TR29” appears in the “Option” section of the system parameter list, go on to step10. Otherwise, check the ROM version or the cable connections.
   FCU ROM Versions which support this option
   - A1945582H or later
   - A1945585E or later
   - A1945587B or later
   - A2255582C or later
   - A2255585C or later
   - A2255587B or later
10. Follow the Operator’s Manual for how to connect the machine to a host computer, how to set up the machine and the computer, if required.
    NOTE: 1) A “straight-through” shielded serial cable is required, but it is not enclosed in this option.
    2) One end of the serial cable must have a DB25 male type connector to be connected to the DIU.

4. SERVICE TABLES AND PROCEDURES

4.1 SERVICE MODE FUNCTIONS

4.1.1 PC PROTOCOL DUMP LIST

Use this function to check the AT commands and responses that are exchanged between a host computer and the machine.
Refer to section 2.1 for details of the supported AT commands.

1. Enter service mode, and select 05 “Protocol Dump”.
2. Select 3 “PC Protocol List”, then press Start.

4.2 BIT SWICTHES

System Switch 1C		
No	**FUNCTION**	**COMMENTS**
0	PC-DIU communication record on the Journal **0:** Disabled **1:** Enabled	**1:** Communications between the DIU and a host PC are logged on the Journal. Also, the Data-in LED turns on while data is coming in and going out to the PC. Be sure to reset this bit to “0” after a test.
1 to 7	Not used	Do not change the settings.

4.3 USER PARAMETERS

User Switch 20		
No	**FUNCTION**	**COMMENTS**
0	Class 2 transmission **0:** Direct tx **1:** Memory tx	**0:** Image data is sent directly from a host during communication. **1:** Image data is sent to the fax machine’s SAF memory before starting a fax communication, then it is sent by the fax machine.
1	Addition of fax TTI in class 2 memory transmission **0:** Disabled **1:** Enabled	**1:** The machine adds its TTI to all the messages sent through SAF memory. This setting is effective only when bit 0 is set to “1”.
2	Message received to: **0:** Fax **1:** PC	**0:** Received messages are printed at the machine. **1:** Received messages are transferred to the host PC.

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User Switch 20		
No	**FUNCTION**	**COMMENTS**
3	Class 2 reception **0:** Direct rx **1:** Memory rx	**0:** Received messages are transferred to the host PC directly during fax communication. **1:** Received messages are stored in the SAF memory during reception. Then they are transferred to the host PC after reception has been completed.
4	Message printout in class 2 memory rx **0:** Disabled **1:** Enabled	**1:** A message received into memory is printed after it has been transferred to the host PC.
5	Checkered mark on printouts from a PC **0:** Disabled **1:** Enabled	**1:** The machine prints a checkered mark on a document printed through the DIU.
6 to 7	Not used	Do not change the settings.

User Switch 21		
No	**FUNCTION**	**COMMENTS**
0 to 3	Scan density for the “Light” setting in scanner mode. $\begin{pmatrix}1\\0\\0\\0\end{pmatrix} = Level\,1 \begin{pmatrix}0\\1\\0\\0\end{pmatrix} = Level\,2 \begin{pmatrix}1\\1\\0\\0\end{pmatrix} = Level\,3$	
4 to 7	Scan density for the “Dark” setting in scanner mode. $\begin{pmatrix}1\\0\\1\\0\end{pmatrix} = Level\,5 \begin{pmatrix}0\\1\\1\\0\end{pmatrix} = Level\,6 \begin{pmatrix}1\\1\\1\\0\end{pmatrix} = Level\,7$	

5. PARTS LIST

Index	Part Number	Name	Q’ty/Unit
1	A2255172	PCB - DIU	1
2	A2255290	Harness – DIU-FCU	1
3	04513006B	Screw – M3 x 6	3

Model: AD1 (New DF65 Option)	Date: 15-Mar-98	No: 50
Subject: New Model for AD1E	Prepared by: K.Ugaeri	
From: QAC Field Information Dept.		

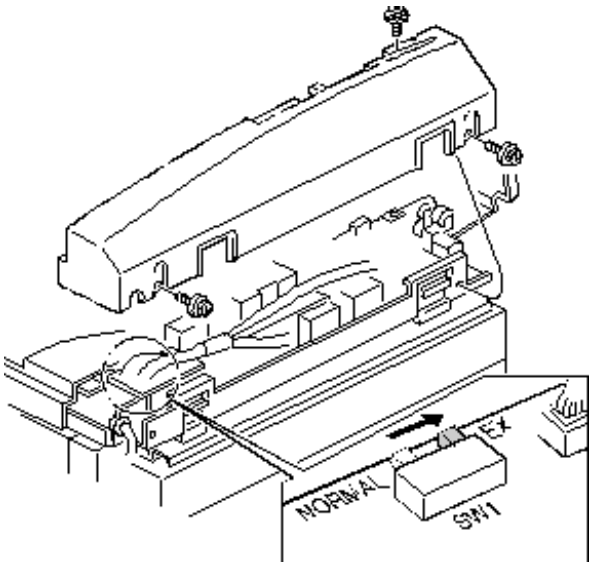
Classification:

☐ Troubleshooting	☐ Part information	☐ Action required
☐ Mechanical	☐ Electrical	☐ Service manual revision
☐ Paper path	☐ Transmit/receive	☐ Retrofit information
☒ Other ( )		

We hereby inform you that a new ARDF has been launched with a new trailing edge sensor to speed up ARDF scanning for the AD1E (25 cpm). New product codes are as follows.

Product Code	Model Name	Current Product Code
A661-50	DF65 for Gestetner	A661-10
A661-30	DF65 for Savin	A661-15
A661-57	DF65 for Ricoh	A661-17
A661-66	DF65 for Danka	A661-26
A661-60	DF65 for Lanier	A661-55

New product can be installed on the AD1 and the AD1E. When installed on the AD1E, please change the dip switch on the ARDF control board from Normal to Ex position as shown the instruction manual. The different parts list between new product and old one is attached (Scanning speed with AD1E: 20cpm by 1 to 1 copy).



The old product can also be used with the AD1 and AD1E (its scanning speed for both models is 15 cpm for 1 to 1 copying).

Model: AD1 (New DF65 Option)	Date: 15-Mar-98	No:50

Different parts between old and new DF65

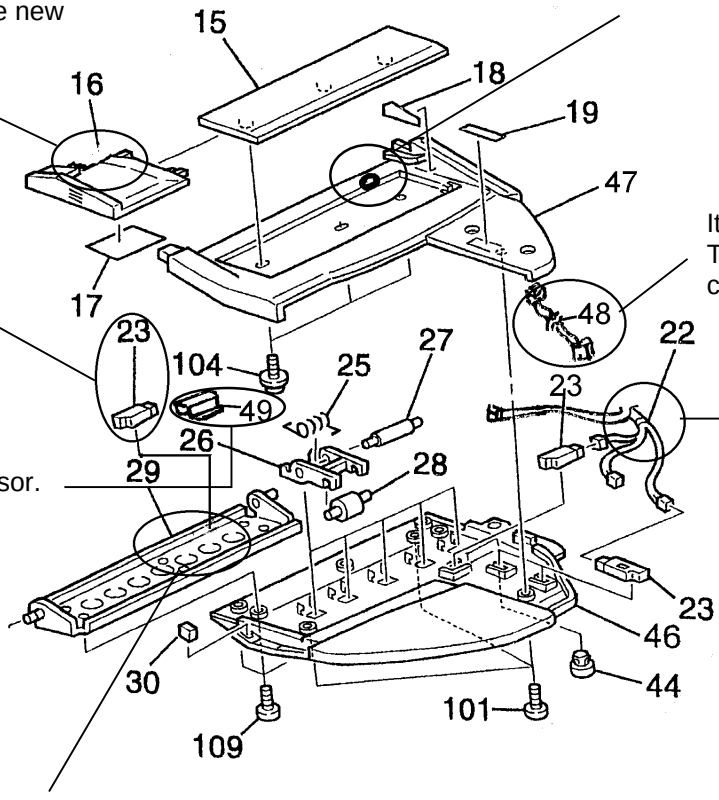
	New Part Number	Description	Index No
1.	A6612211	Side Fence	5-16
2.	A6615760	Relay Harness - Original Tray	5-22
3.	A6615765	Relay Harness - Trailing Edge Sensor	5-48 (new)
4.	A6612165C	Original Table Bracket	5-29
5.	A6612232	Bracket - Trailing Edge Sensor	5-49 (new)
6.	A6612141D	Front Original Table	5-47
7.	A6615510	ARDF Control Board 2	13-21
8.	AW010066	Photosensor-PS-R50D1-B	5-23 (new)

Note

Items 1, 2, 4, 6, & 7 can be used for the old DF65. Refer to MB no.2 for the DF65.
To standardize the service spare parts, you can use new parts for old DF65 units in the field.

Item 1:
The collar is removed so the new sensor will not be blocked.

Item 6:
A hole is made for the new sensor.



Item 3:
The harness between the ARDF control board and harness 22.

Item 8: New sensor

Item 2:

Item 5:
The bracket for new sensor.

Item4:
Holes for installing the sensor have been made in the bracket.

Model: AD1	Date: 15-Jun-98	No: 51
Subject: China version information	Prepared by: S.Tomoe	
From: QAC Field Information Dept.		

Classification:

☐ Troubleshooting	☐ Part information	☐ Action required
☐ Mechanical	☐ Electrical	☐ Service manual revision
☐ Paper path	☐ Transmit/receive	☐ Retrofit information
☒ Other ( )		

The China version was launched in February 1998. This RTB clarifies the differences between the Asia version (A193-27) and this version.

1. Model Name and Machine Code

Version	Machine code	Model Name
China version	A193-69	Aficio 200

2. Technical information

All specifications for the China version are exactly the same as for the Asia version.

3. Parts Information

The following are unique part numbers for the China version.

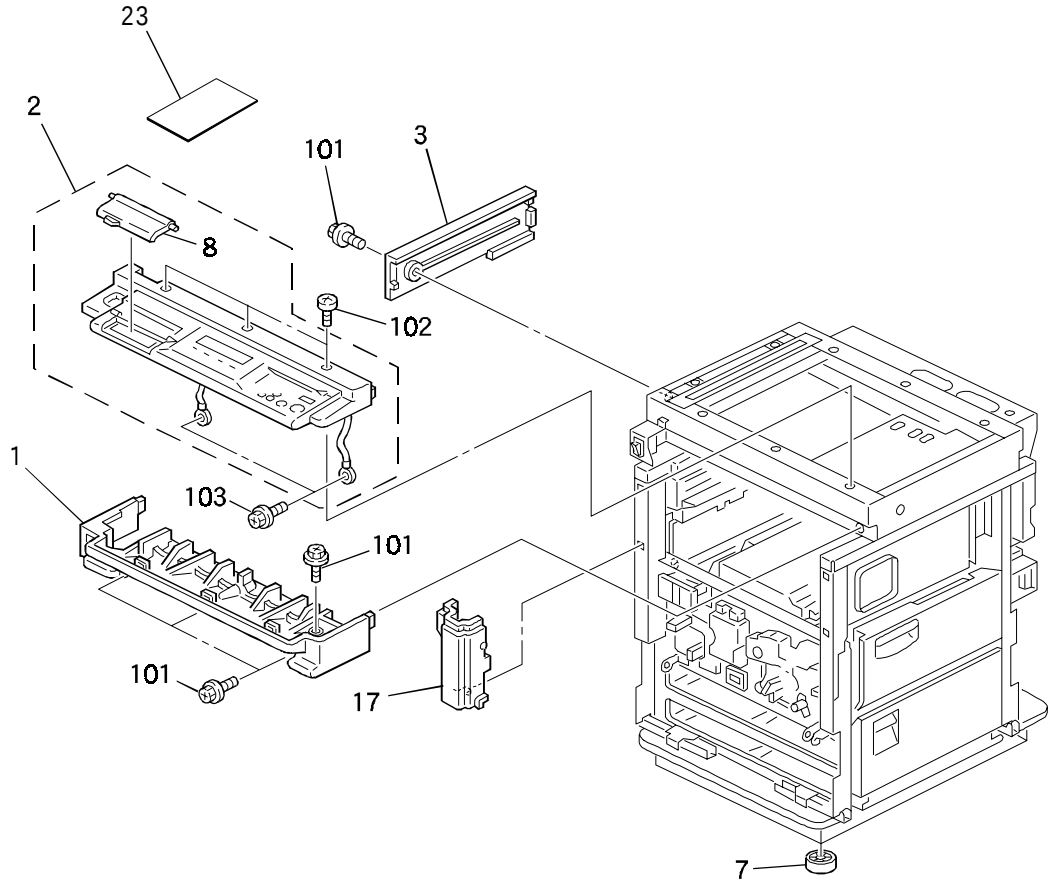
- A193 -

Part Number	Description	Index No.	Page
A1935094	BICU Board (CHN)	3	45
A1935715	Power Supply Cord (CHN)	16	47
A1937365	Decal – Main (CHN)	6	63
A1937366	Decal – AC Switch (CHN)	8	63
A2041297 (new)	Sheet – Service Tel.	23	7
A1938606	Operating Instructions – Copy (CHN)	10	63
A6848606	Operating Instructions – Main (CHN)	11	63

- Printer -

Part Number	Description	Index No.	Page
A1937367	Decal – Copy/Printer	8	25

Model: AD1	Date: 15-Jun-98	No: 51



MB Correction

Reissue date: **15-Sep-98**

The items in bold italics have been corrected or added.

Model: AD1 & AD1E		Date: 31-Jul-98	No: 52A
Subject: Light Copies		Prepared by: K.Ugaeri	
From: QAC Field Information Dept.			
Classification:	☒ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Other ( )		

Symptom

After making a few hundred copies, the image density becomes lighter and lighter

Cause

If the monthly copy volume is higher than 3K, the machine with new firmware from ver1.70 for AD1 and ver1.30 for AD1E may have this problem because of the lack of the toner supply.

Action required

A. If the customer has this problem and their copy volume is higher than 3K, change the following SP modes to ensure that the toner density is enough.

1. To ensure sufficient density:
(1) Change SP2-999 to 1 for the manual mode and input 100 into SP2-996.
(2) Make few copies until the density is sufficient.
(3) Change back SP2-999 to 0 for the factory setting mode.

*Caution: Do not keep it in the manual mode. Otherwise too much toner will be added.

2. To maintain a sufficient image density:
(1) Set SP2-201 for development bias adjustment to -700V.
(2) Set SP2-***994*** for offset value of the Vcont setting to 0.
(3) Set SP2-911 for the image density selection to 1 (Dark).

B. If the customer has this problem and their copy volume is less than 3K, change the following SP mode.

1. To ensure sufficient density:
(1) Change SP2-999 to 1 for the manual mode and input 100 into SP2-996.
(2) Make a few copies until the density is sufficient.
(3) Change back SP2-999 to 0 for the factory setting mode.

*Caution: Do not keep it in the manual mode. Otherwise too much toner will be added.

2. To maintain a sufficient image density:
(1) Set SP2-201 for the development bias adjustment to -700V.
(2) Set SP2-911 for the image density selection to 1 (Dark).

If the density is still light even after the above action, please contact a Ricoh sales branch.

RTB Correction

Reissue date: **31-Jul-98**

The items in bold Italics have been corrected or added.

Model: AD1	Date: 15-Jan-97	No: 15G
Subject: ROM History (AD1 Copy Version)	Prepared by: K.Ugaeri	
From: QAC Field Information Dept.		

Classification:

☐ Troubleshooting	☐ Part information	☐ Action required
☐ Mechanical	☐ Electrical	☐ Service manual revision
☐ Paper path	☐ Transmit/receive	☒ Retrofit information
☐ Other ( )		

AD1 firmware history
USA

A1935532	File No. (A193uxx)	Version	Total C.SUM	SUM(OH)	SUM(OL)	Production
D	04	1.16	55DD	178E	3E4F	1st Mass Prod.
E	05	1.23	FB24	B285	489F	November Prod.'96
F	06	1.31	F96B	F66D	02FE	December Prod.'96
G	07	1.33	5D03	2ECA	2E39	January Prod.'97
H	———	1.35	———	———	———	January Prod.'97
J	———	1.36	———	———	———	January Prod.'97
K	10	1.38	A7FE	FB14	ACEA	February Prod.'97
L	11	1.43	BA4B	536A	66EI	March Prod.'97
M	11A	1.48	F9D6	3029	C9AD	May Prod.'97
N	12	1.54	7413	3D1A	36F9	June Prod.'97
P	13	1.60	3042	A726	891C	August Prod.'97
R	14	1.62	5B56	CF0D	8C49	September Prod.'97
T	16	1.70	8D31	65E0	2751	October Prod.'97
V	***17***	***1.72***	***2708***	***2870***	***FE98***	***February Prod.'98***

Europe/Asia

A1935533	File No. (A193exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)	Production
C	103	1.16	B574	E4C1	D0B3	1st Mass Prod.
D	104	1.23	FC4B	98CE	637D	November Prod.'96
E	105	1.31	OADC	41C5	C917	December Prod.'96
F	107	1.33	4C77	CFF3	7C84	January Prod.'97
G	———	1.35	———	———	———	January Prod.'97
H	———	1.36	———	———	———	January Prod.'97
J	110	1.38	ACCC	2927	8353	February Prod.'97
K	111	1.43	F537	6510	9027	March Prod.'97
L	111A	1.48	7218	5558	1CC0	May Prod.'97
M	112	1.54	AAA8	7837	3271	June Prod.'97
N	113	1.60	1FE3	AEE1	7102	August Prod.'97
P	114	1.62	794C	90BE	E88E	September Prod.'97
R	116	1.70	2208	D8BC	494C	October Prod.'97
S	***117***	***1.72***	***76BE***	***909E***	***E620***	***February Prod. '98***

∗The versions 1.35 and 1.3 are not released as files.

Model: AD1	Date: 15-Jan-97	No: 15G

European 2nd Language

A6485570	File No. (A193exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
E	205	1.43EU2	4BC4	DE26H	6D9E
F	205A	1.48EU2	09F5	CC25	3DD0
G	206	1.54EU2	E768	F05C	F70C
H	208	1.57EU2	E765	F056	F70F
J	209	1.60EU2	AE02	2277	8B8B
K	210	1.62EU2	CB8A	0ACC	C0BE
M	212	1.70EU2	4159	50F0	F069
N	***213***	***1.72EU2***	***8982***	***08DC***	***80A6***

European 3rd Language

A6485573	File No. (A193exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
	301	1.57EU3	9DBB	C908	D4B3
A	302	1.60EU3	390A	FD07	3C03
B	303	1.62EU3	C69E	D5E3	F0BB
D	305	1.70EU3	006B	8E5E	720D
E	***306***	***1.72EU3***	***BA31***	***2700***	***9331***

European 4th Language

A6485574	File No. (A193exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
	401	1.57EU4	1DF0	CA60	5390
A	402	1.60EU4	4490	FDEF	46A1
B	403	1.62EU4	A30C	D9E5	C927
D	405	1.70EU4	3973	9405	A56E
E	***406***	***1.72EU4***	***78ED***	***301F***	***48CE***

China

A6485572	File No. (A193CHxx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
E	04	1.62CH	B020	B056	FFCA
H	07	1.70CH	1893	3AEA	DDA9
J	***08***	***1.72CH***	***690B***	***C1A7***	***A764***

Taiwan

A1935534	File No. (A193TWxx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
B	03	1.62TW	C05F	3BA0	94BF
E	06	1.70TW	470D	87F1	BF1C
F	***07***	***1.72TW***	***A7C2***	***0C5B***	***9B67***

Model: AD1	Date: 15-Jan-97	No: 15G

Symptom Corrected	USA	EU/ Asia	EU2	EU3	EU4	CHN	TWN
The tables for Vt correction & mixing time are changed. Pre.Vt-Latest Vt / Mixing Time: ~ 0.1 / 10; ~ 0.2 / 30; ~ 0.3 / **50**; ~ 0.5 / 300; 0.5 ~ / 500 Remaining Mixing time / Vt Correction: 100 / 0; 200 / 0.1; **400 / 0.4**; **450 / 0.6**; 500 / **0.8**	***V***	***S***	***N***	***E***	***E***	***J***	***F***
Dirty background problem (Refer to RTB42) -Vt correction -Mixing time	T	R	M	D	D	H	E
New SP mode •SP2-994: Vcont offset •SP9-999-14: Additional mixing time display	T	R	M	D	D	H	E
For the USA only New SP mode SP5-950: LG size paper detection on the by pass tray. * When this function is selected and LT size is put in the by-pass tray, the machine detects it as LG size paper.	R						
For the USA only To meet the Energy Star standard.	R						
After a fax transmission through ARDF with a stammer, the registration of the 1st copied paper by ARDF is delayed.	R	P	K	B	B	E	B
New SP mode. SP5-949:1= When one of the trays is empty, the paper end indicator (red LED) lights.	P	N	J	A	A	D	A
The DF Jam display is cleared by lifting the DF up and down	P	N	J	A	A	D	A
New SP Mode SP6-006-4: ARDF Main-Scan Registration for the rear side.	N	M	G				
Specification When the trays do not have paper of the same size in different orientations, the machine continues to print using the sort function even if Rotate Sort is selected. (The previous software version stops the copy job when one of the trays is empty)	N	M	G				
The stapler may not work when the printer feeds out a stapled copy while feeding out the paper into the finisher in copy or fax mode.	N	M	G				
When two sheets of paper remain in the Duplex Unit and the printer prints in duplex mode, the printout will be made on the rear side of the paper remaining in the duplex unit.	N	M	G				
SP5-808: The three languages cannot be selected using the previous software version N	—	M	G				

Model: AD1	Date: 15-Jan-97	No: 15G

If a duplex copy is made with the ADF, Duplex Unit and 12M Memory and the original is jammed, the jammed original cannot be copied correctly during recovery.	M	L	F				
Paper jam when paper is fed from the 3rd tray immediately after feeding the paper from the 4th tray.(A jam or Y jam) with the following paper types. * 3rd Tray has paper of length less than 288mm (A4 □) 4th Tray has paper of length 289mm to 401mm (A4 □)	M	L	F				
When the RAM was cleared with SP5-801, the white level and the standard white plate density set at the factory were erased.	L	K	E				
Toner scattering around black areas of the image on the rear side of duplex copies. The default of the separation output voltage was changed. SP2-901-1→ -1800 SP2-901-2→ -1800 SP2-901-3→- 2500 SP2-901-4→- 2500	K	J					
A blank sheet is printed out when the start key is pressed if the memory is full. The scanning restarts after printing the scanned image and then the first original jams.	J	H					
Dirty Background. 1) Toner Density (SP2-911) was changed from 2 to 3 (Lighter). 2) Free run time at PCU installation was changed from 1 min. to 3 min.	H	G					
Black Spots in the scanned image - A scanned low contrast image can be adjusted using 7 settings. Each setting has different gamma correction characteristics, MTF filter and threshold level (new SP mode: SP4-998,999)	G	F					
Dirty background on white images after negative\positive reversal.	G	F					
SC321 appears when the door is opened during memory copying if the start key is pressed after closing the door.	G	F					
The development bias setting (SP2-201) is initialized when the main switch is turned off.	G	F					
SC921-Memory Access Error After a paper jam while opening the door during memory output.	F	E					
SC101 appears when turning the main switch off/on after the IPU test pattern in SP mode.	F	E					
SP5-803: New PCU Detect is added to the input checks.	F	E					
Memory copy priority of SP5-945 is added to Salesman Program Mode.	F	E					
SP mode cannot be cleared when the main switch is turned off/on after going to the interrupt copy mode from SP mode.	F	E					
The finisher is supported..	F	E					
While feeding out an original from the ADF, the Start key can be pressed. Then the incorrect document size is detected.	E	D					
The ARDF is supported.	E	D					

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Model: AD1	Date: 15-Jan-97	No: 15G

A1935532	A193-10	A193-15	A193-17	A193-55
E	A10611001~	6A76100001~	A7226100001~	L5026110066~
F	_	6A76120001~	A7226110154~	L5026120516~
G	A107010001~	6A76120026~	A7226120149~	L5027011010~
H	_	6A77020001~	A7227010410~	L5027021541~
J	A107020001~	6A77020241~	_	L5027021563~
K	A107030001~	6A77020438~	A7227020001~	L5027031945~
L	A107040001~	6A77040001~	_	L5027042480~
M	A107050001~	6A77050001~	A7227050001~	L5027053186~
N	A107060036~	6A77060001~	A7227060001~	L5027063876~
P	A107080001~	6A77080001~	A7227080001~	L5027085441~
R	A107090001~	6A77090001~	A7227090001~	L5027096321~
T	***A107100001~***	***6A77100001~***	***A7227100006~***	***L5027117581~***
V	***A108020001~***	***6A78020001~***	***A7228020001~***	***L5028019178~***

A1935533	A193-22	A193-26	A193-27	A193-29	A193-65	A193-69
D	AH26110001~	3L01160001~	A7226101023~	A7226101492~	L5026110271~	
E	AH26120001~	3L01260001~	A7226111703~	A7226122087~	L5026120780~	
F	AH27010001~	3L00170001~	A7226121305~	A7227012021~	L5027011216~	
G	AH27020001~	3L00270001~	—	—	L5027011424~	
H	AH27020951~	—	A7227021026~	A7227021345~	L5027021685~	
J	AH27020967~	3L00370001~	A7227030441~	A7227031491~	L5027032180~	
K	TBA	3L00470001~	TBA	TBA	TBA	
L	AH27040251~	3L00570001~	A7227042629~	A7227052269~	L5027053561~	
M	AH27060960~	3L00670001~	A7227060651~	A7227062571~	L5027064111~	
N	AH27080001~	3L00870001~	A7227080969~	A7227081769~	L5027085755~	
P	AH27090001~	3L00970001~	A7227090881~	A7227092701~	L5027096431~	A7227092891~
R	***AH27100463~***	***3L01070007~***	***A722710771~***	***A7227102371~***	***L5027118101~***	***A727102531~***
S	***AH28020001~***	***3L00280001~***	***A72280011266~***	***A7228011756~***	***L5028019336~***	***A7228043126~***

A1935534	A193-19
B	A7227090821~
F	***A7228042025~***

MB Correction

Reissue date: **31-Jul-98**

The items in bold italics have been corrected or added.

Model: AD1-E	Date: 15-Oct-97	No: 40C
Subject: ROM History (AD1-E Copy Version)	Prepared by: K.Ugaeri	
From: QAC Field Information Dept.		

Classification:

☐ Troubleshooting	☐ Part information	☐ Action required
☐ Mechanical	☐ Electrical	☐ Service manual revision
☐ Paper path	☐ Transmit/receive	☒ Retrofit information
☐ Other ( )		

AD1-E (Copy) firmware history.

USA

A2245532	File No. (A224uxx)	Version	Total C.SUM	SUM(OH)	SUM(***OL***)	Production
D	01	1.18	7766	6521	1245	1st Mass Prod.
E	02	1.20	01F7	98CE	6929	June Prod. '97
F	03	1.24	D441	9943	3AFE	August Prod. '97
H	04	1.26	C879	5895	6FE4	September Prod. '97
K	06	1.30	432E	144E	2EE0	October Prod. '97
L	***07***	***1.32***	***DECC***	***12FA***	***CBC2***	***November Prod.'97***
M	***08***	***1.33***	***A5B9***	***A28F***	***032A***	***February Prod.'98***

Europe/Asia

A2245533	File No. (A224exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)	Production
B	101	1.20EU1	46A8	65C6	E0E2	1st Mass Prod.
C	102	1.24EU1	F12D	8333	6DFA	August Prod. '97
D	103	1.26EU1	6693	55DF	10B4	September Prod. '97
F	105	1.30EU1	6F80	F07D	7F03	October Prod. '97
G	***106***	***1.32EU1***	***AD8D***	***EF92***	***BDFB***	***November Prod.'97***
H	***107***	***1.33EU1***	***3D82***	***8357***	***BA2B***	***February Prod.'98***

European 2nd Language

A8105570	File No. (A224exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
A	202	1.24EU2	9FB1	FAE8	A4C9
B	203	1.26EU2	F29A	D4BF	1DDB
D	205	1.30EU2	76E6	6ED6	0810
E	***206***	***1.32EU2***	***6349***	***6E3B***	***F50E***
F	***207***	***1.33EU2***	***EE69***	***0204***	***EC65***

European 3rd Language

A8105573	File No. (A224exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
A	302	1.24EU3	2C91	F73A	3557
B	303	1.26EU3	649F	D770	8D2F
D	305	1.30EU3	6B26	4D86	1DA0
E	***306***	***1.32EU3***	***EE17***	***646C***	***89AB***
F	***307***	***1.33EU3***	***FE7F***	***D5DD***	***28A2***

European 4th Language

A8105574	File No. (A224exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
A	402	1.24EU4	7A6A	F8BC	81AE
B	403	1.26EU4	E7F9	DA9F	0D5A
D	405	1.30EU4	A7C1	4EF5	58CC
E	***406***	***1.32EU4***	***DFE0***	***4E0F***	***91D1***
F	***407***	***1.33EU4***	***8EEA***	***DAFC***	***B3EE***

China

A8105512(OL) A8105513(OH)	File No. (A224CHxx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
–	–	–	–	–	–

Taiwan Version

A2245534	File No. (A224TWxx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
–	–	–	–	–	–

<table>
<tr><th>Symptom Corrected</th><th>USA</th><th>EU/ Asia</th><th>EU2</th><th>EU3</th><th>EU4</th><th>CHN</th><th>TWN</th></tr>
<tr><td>The tables for Vt correction & mixing time have been changed.

<table>
<tr><th>Pre.Vt-Latest Vt</th><th>Mixing Time</th></tr>
<tr><td>~ 0.1</td><td>10</td></tr>
<tr><td>~ 0.2</td><td>30</td></tr>
<tr><td>~ 0.3</td><td>50</td></tr>
<tr><td>~ 0.5</td><td>300</td></tr>
<tr><td>0.5 ~</td><td>500</td></tr>
</table>
<table>
<tr><th>Remaining Mixing time</th><th>Vt Correction</th></tr>
<tr><td>100</td><td>0</td></tr>
<tr><td>200</td><td>0.1</td></tr>
<tr><td>400</td><td>0.4</td></tr>
<tr><td>450</td><td>0.6</td></tr>
<tr><td>500</td><td>0.8</td></tr>
</table>
</td><td>M</td><td>H</td><td>F</td><td>F</td><td>F</td><td>_</td><td>_</td></tr>
<tr><td>AD1E Only
After initializing the developer, the transfer current is supplied until making a copy, turning the main switch off and on, or opening the front cover.</td><td>L</td><td>G</td><td>E</td><td>E</td><td>E</td><td>_</td><td>_</td></tr>
<tr><td>Dirty background problem (Refer to RTB42)
-Vt correction
-Mixing time</td><td>K</td><td>F</td><td>D</td><td>D</td><td>D</td><td>_</td><td>_</td></tr>
<tr><td>New SP mode
•SP2-994: Vcont offset
•SP9-999-14: Additional mixing time display</td><td>K</td><td>F</td><td>D</td><td>D</td><td>D</td><td>_</td><td>_</td></tr>
<tr><td>For the USA only
New SP mode
SP5-950: LG size paper detection on the by pass tray.
* When this function is selected and LT ▭ size is put in the by-pass tray, the machine detects it as LG ▭ size paper.</td><td>H</td><td>_</td><td>_</td><td>_</td><td>_</td><td>_</td><td>_</td></tr>
<tr><td>For the USA only
To meet the Energy Star standard.</td><td>H</td><td>_</td><td>_</td><td>_</td><td>_</td><td>_</td><td>_</td></tr>
<tr><td>After a fax transmission through ARDF with a stamper, the registration of the 1st copied paper by ARDF is delayed.</td><td>H</td><td>D</td><td>B</td><td>B</td><td>B</td><td>_</td><td>_</td></tr>
<tr><td>New SP mode.
SP5-949:1= When one of the trays is empty, the paper end indicator (red LED) lights.</td><td>F</td><td>C</td><td>A</td><td>A</td><td>A</td><td>_</td><td>_</td></tr>
<tr><td>The DF Jam display is cleared by lifting the DF up and down</td><td>F</td><td>C</td><td>A</td><td>A</td><td>A</td><td>_</td><td>_</td></tr>
<tr><td>New SP Mode
SP6-006-4: ARDF Main-Scan Registration for the rear side.</td><td>E</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Specification
When the trays do not have paper of the same size in different orientations, the machine continues to print using the sort function even if Rotate Sort is selected. (The previous software version stops the copy job when one of the trays is empty)</td><td>E</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>The stapler may not work when the printer feeds out a stapled copy while feeding out the paper into the finisher in copy or fax mode.</td><td>E</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>When two sheets of paper remain in the Duplex Unit and the printer prints in duplex mode, the printout will be made on the rear side of the paper remaining in the duplex unit.</td><td>E</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

A2245532	A224-10	A224-15	A224-17	A22455
E	AK87070001~	9A37060001~	A7427060001~	L027080001~
F	AK87080023~	9A37080001~	A7427080001~	_
H	AK87090001~	9A37090001~	A7427090001~	L027090031~
K	***AK87100001~***	***9A37100001~***	***A7427100021~***	***L027111066~***
L	***AK87120001***~	***9A37120001***~	***A7427120001***~	***L027121721***~
M	***AK88020001***~	***9A38020001***~	***A7428020001***~	***L0248022670***~

A2245533	A224-22	A224-26	A224-27	A224-29	A224-65
C	AK97070543~	3P30870001~	A7427080601~	A7427081501~	_
D	AK97090001~	3P30970001~	A7427090305~	A7427091035~	L0247090216~
F	***AK97100001~***	***3P31070001~***	***A7427100176~***	***A7427101246~***	_
G	***AK97110001***~	***3P31170001***~	***A7427110081***~	***A7427110881***~	***L0247111341***~
H	***AK98020001***~	***3P30280001***~	***A7428030351***~	***A7428020101***~	***L0248023356***~

RTB Correction

Reissue date: **31-Aug-98**

The items in bold Italics have been corrected or added.

Model: AD1		Date: 15-Jan-97	No: 15H
Subject: ROM History (AD1 Copy Version)		Prepared by: K.Ugaeri	
From: QAC Field Information Dept.			
Classification:	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☒ Retrofit information
	☐ Other ( )		

AD1 firmware history
USA

A1935532	File No. (A193uxx)	Version	Total C.SUM	SUM(OH)	SUM(OL)	Production
D	04	1.16	55DD	178E	3E4F	1st Mass Prod.
E	05	1.23	FB24	B285	489F	November Prod.'96
F	06	1.31	F96B	F66D	02FE	December Prod.'96
G	07	1.33	5D03	2ECA	2E39	January Prod.'97
H	———	1.35	———	———	———	January Prod.'97
J	———	1.36	———	———	———	January Prod.'97
K	10	1.38	A7FE	FB14	ACEA	February Prod.'97
L	11	1.43	BA4B	536A	66EI	March Prod.'97
M	11A	1.48	F9D6	3029	C9AD	May Prod.'97
N	12	1.54	7413	3D1A	36F9	June Prod.'97
P	13	1.60	3042	A726	891C	August Prod.'97
R	14	1.62	5B56	CF0D	8C49	September Prod.'97
T	16	1.70	8D31	65E0	2751	October Prod.'97
V	17	1.72	2708	2870	FE98	February Prod.'98
W	***18***	***1.73***	***0BF0***	***1A1D***	***F1D3***	***September Prod.'98***

Europe/Asia

A1935533	File No. (A193exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)	Production
C	103	1.16	B574	E4C1	D0B3	1st Mass Prod.
D	104	1.23	FC4B	98CE	637D	November Prod.'96
E	105	1.31	OADC	41C5	C917	December Prod.'96
F	107	1.33	4C77	CFF3	7C84	January Prod.'97
G	———	1.35	———	———	———	January Prod.'97
H	———	1.36	———	———	———	January Prod.'97
J	110	1.38	ACCC	2927	8353	February Prod.'97
K	111	1.43	F537	6510	9027	March Prod.'97
L	111A	1.48	7218	5558	1CC0	May Prod.'97
M	112	1.54	AAA8	7837	3271	June Prod.'97
N	113	1.60	1FE3	AEE1	7102	August Prod.'97
P	114	1.62	794C	90BE	E88E	September Prod.'97
R	116	1.70	2208	D8BC	494C	October Prod.'97
S	117	1.72	76BE	909E	E620	February Prod. '98
T	***118***	***1.73***	***4C5F***	***714E***	***DB11***	***September Prod.'98***

∗ Versions 1.35 and 1.3 are not released as files.

Model: AD1	Date: 15-Jan-97	No: 15H

European 2nd Language

A6485570	File No. (A193exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
E	205	1.43EU2	4BC4	DE26H	6D9E
F	205A	1.48EU2	09F5	CC25	3DD0
G	206	1.54EU2	E768	F05C	F70C
H	208	1.57EU2	E765	F056	F70F
J	209	1.60EU2	AE02	2277	8B8B
K	210	1.62EU2	CB8A	0ACC	C0BE
M	212	1.70EU2	4159	50F0	F069
N	213	1.72EU2	8982	08DC	80A6
P	***214***	***1.73EU3***	***9E75***	***EC59***	***B21C***

European 3rd Language

A6485573	File No. (A193exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
	301	1.57EU3	9DBB	C908	D4B3
A	302	1.60EU3	390A	FD07	3C03
B	303	1.62EU3	C69E	D5E3	F0BB
D	305	1.70EU3	006B	8E5E	720D
E	306	1.72EU3	BA31	2700	9331
F	***307***	***1.73EU3***	***3774***	***27A0***	***0FD4***

European 4th Language

A6485574	File No. (A193exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
	401	1.57EU4	1DF0	CA60	5390
A	402	1.60EU4	4490	FDEF	46A1
B	403	1.62EU4	A30C	D9E5	C927
D	405	1.70EU4	3973	9405	A56E
E	406	1.72EU4	78ED	301F	48CE
F	***407***	***1.73EU4***	***1D07***	***11EC***	***0BEB***

China

A6485572	File No. (A193CHxx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
E	04	1.62CH	B020	B056	FFCA
H	07	1.70CH	1893	3AEA	DDA9
J	08	1.72CH	690B	C1A7	A764
K	***09***	***1.73CH***	***D423***	***A74A***	***2CD9***

Taiwan

A1935534	File No. (A193TWxx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
B	03	1.62TW	C05F	3BA0	94BF
E	06	1.70TW	470D	87F1	BF1C
F	07	1.72TW	A7C2	0C5B	9B67
G	***08***	***1.73TW***	***59DD***	***FB05***	***5ED8***

Model: AD1	Date: 15-Jan-97	No: 15H

Symptoms Corrected (New Items only – for old ones, see previous bulletins)	USA	EU/ Asia	EU2	EU3	EU4	CHN	TWN
Copy quality in duplex mode ***∗When the quality of the rear side copy is poor, the added transfer current must be decreased using SP2-301-3. With the new table, it can be adjusted to a lower range.*** Current Table (SP2-301-3) New Table (SP2-301-3) Table No./ Paper width: 0 / 1 / 2 / 3 275•: 15 / 17 / 19 / 21 250• 275: 15 / 17 / 19 / 21 200• 250: 15 / 17 / 19 / 21 • 200: 15 / 17 / 19 / 21 Default → Table No./ Paper width: 0 / 1 / 2 / 3 275•: 8 / 11 / 14 / 17 250• 275: 10 / 12 / 15 / 17 200• 250: 12 / 14 / 16 / 17 • 200: 14 / 15 / 16 / 17 Default	***W***	***T***	***P***	***F***	***F***	***K***	***G***
SC544 is sometimes displayed when the machine shifts to night mode or pre-heat mode.	***W***	***T***	***P***	***F***	***F***	***K***	***G***
When paper longer than A4 is fed in a toner near end condition, not enough toner is supplied.	***W***	***T***	***P***	***F***	***F***	***K***	***G***

A1935532	A193-10	A193-15	A193-17	A193-55
E	A10611001~	6A76100001~	A7226100001~	L5026110066~
F	-	6A76120001~	A7226110154~	L5026120516~
G	A107010001~	6A76120026~	A7226120149~	L5027011010~
H	-	6A77020001~	A7227010410~	L5027021541~
J	A107020001~	6A77020241~	-	L5027021563~
K	A107030001~	6A77020438~	A7227020001~	L5027031945~
L	A107040001~	6A77040001~	-	L5027042480~
M	A107050001~	6A77050001~	A7227050001~	L5027053186~
N	A107060036~	6A77060001~	A7227060001~	L5027063876~
P	A107080001~	6A77080001~	A7227080001~	L5027085441~
R	A107090001~	6A77090001~	A7227090001~	L5027096321~
T	A107100001~	6A77100001~	A7227100006~	L5027117581~
V	A108020001~	6A78020001~	A7228020001~	L5028019178~
W	***TBA***	***TBA***	***TBA***	***TBA***

A1935533	A193-22	A193-26	A193-27	A193-29	A193-65
D	AH26110001~	3L01160001~	A7226101023~	A7226101492~	L5026110271~
E	AH26120001~	3L01260001~	A7226111703~	A7226122087~	L5026120780~
F	AH27010001~	3L00170001~	A7226121305~	A7227012021~	L5027011216~
G	AH27020001~	3L00270001~	-	-	L5027011424~
H	AH27020951~	-	A7227021026~	A7227021345~	L5027021685~
J	AH27020967~	3L00370001~	A7227030441~	A7227031491~	L5027032180~
K	TBA	3L00470001~	TBA	TBA	TBA
L	AH27040251~	3L00570001~	A7227042629~	A7227052269~	L5027053561~
M	AH27060960~	3L00670001~	A7227060651~	A7227062571~	L5027064111~
N	AH27080001~	3L00870001~	A7227080969~	A7227081769~	L5027085755~
P	AH27090001~	3L00970001~	A7227090881~	A7227092701~	L5027096431~
R	AH27100463~	3L01070007~	A722710771~	A7227102371~	L5027118101~
S	AH28020001~	3L00280001~	A72280011266~	A7228011756~	L5028019336~
T	***TBA***	***TBA***	***TBA***	***TBA***	***TBA***

A6485572	***A193-69***
E	***A7227092891***~
H	***A7227102531***~
J	***A7228043126***~
K	***TBA***

A1935534	A193-19
B	A7227090821~
F	A7228042025~
G	***TBA***

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MB Correction

Reissue date: **31-Aug-98**

The items in bold italics have been corrected or added.

Model: AD1-E	Date: 15-Oct-97	No: 40D
Subject: ROM History (AD1-E Copy Version)	Prepared by: K.Ugaeri	
From: QAC Field Information Dept.		

Classification:

☐ Troubleshooting	☐ Part information	☐ Action required
☐ Mechanical	☐ Electrical	☐ Service manual revision
☐ Paper path	☐ Transmit/receive	☒ Retrofit information
☐ Other ( )		

AD1-E (Copy) firmware history.

USA

A2245532	File No. (A224uxx)	Version	Total C.SUM	SUM(OH)	SUM(OL)	Production
D	01	1.18	7766	6521	1245	1st Mass Prod.
E	02	1.20	01F7	98CE	6929	June Prod. '97
F	03	1.24	D441	9943	3AFE	August Prod. '97
H	04	1.26	C879	5895	6FE4	September Prod. '97
K	06	1.30	432E	144E	2EE0	October Prod. '97
L	07	1.32	DECC	12FA	CBC2	November Prod.'97
M	08	1.33	A5B9	A28F	032A	February Prod.'98
N	***09***	***1.34***	***67BC***	***73E2***	***F3DA***	***September Prod.'98***

Europe/Asia

A2245533	File No. (A224exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)	Production
B	101	1.20EU1	46A8	65C6	E0E2	1st Mass Prod.
C	102	1.24EU1	F12D	8333	6DFA	August Prod. '97
D	103	1.26EU1	6693	55DF	10B4	September Prod. '97
F	105	1.30EU1	6F80	F07D	7F03	October Prod. '97
G	106	1.32EU1	AD8D	EF92	BDFB	November Prod.'97
H	107	1.33EU1	3D82	8357	BA2B	February Prod.'98
J	***108***	***1.34EU1***	***C46A***	***790E***	***4B5C***	***September Prod.'98***

European 2nd Language

A8105570	File No. (A224exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
A	202	1.24EU2	9FB1	FAE8	A4C9
B	203	1.26EU2	F29A	D4BF	1DDB
D	205	1.30EU2	76E6	6ED6	0810
E	206	1.32EU2	6349	6E3B	F50E
F	207	1.33EU2	EE69	0204	EC65
G	***208***	***1.34EU2***	***153D***	***F11B***	***2422***

European 3rd Language

A8105573	File No. (A224exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
A	302	1.24EU3	2C91	F73A	3557
B	303	1.26EU3	649F	D770	8D2F
D	305	1.30EU3	6B26	4D86	1DA0
E	306	1.32EU3	EE17	646C	89AB
F	307	1.33EU3	FE7F	D5DD	28A2
G	***308***	***1.34EU3***	***3DF8***	***C1D0***	***7C28***

European 4th Language

A8105574	File No. (A224exx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
A	402	1.24EU4	7A6A	F8BC	81AE
B	403	1.26EU4	E7F9	DA9F	0D5A
D	405	1.30EU4	A7C1	4EF5	58CC
E	406	1.32EU4	DFE0	4E0F	91D1
F	407	1.33EU4	8EEA	DAFC	B3EE
G	***408***	***1.34EU4***	***6B87***	***C26F***	***A918***

China

A8105512(OL) A8105513(OH)	File No. (A224CHxx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
-	-	-	-	-	-

Taiwan

A2245534	File No. (A224TWxx)	Version	Total C.SUM	SUM(OH)	SUM(OL)
-	-	-	-	-	-

Symptoms Corrected (New items only – for previous items, see older bulletins)	USA	EU/ Asia	EU2	EU3	EU4	CHN	TWN
Copy quality in duplex mode ∗***When the quality of the rear side copy is poor, the added transfer current must be decreased using SP2-301-3. With the new table, it can be adjusted to a lower range.*** Currernt Table (SP2-301-3) Table No./ Paper width: 0 / **1** / 2 / 3 275•: 14 / **16** / 18 / 20 250• 275: 16 / **18** / 20 / 22 200• 250: 18 / **20** / 22 / 24 • 200: 19 / **21** / 23 / 25 ↑ Default → New Table (SP2-301-3) Table No./ Paper width: 0 / 1 / 2 / **3** 275•: 8 / 11 / 14 / **16** 250• 275: 10 / 13 / 16 / **18** 200• 250: 12 / 15 / 18 / **20** • 200: 14 / 17 / 19 / **21** ↑ Default	***N***	***J***	***G***	***G***	***G***	_	_
SC544 is sometimes displayed when the machine shifts to night mode or pre-heat mode.	***N***	***J***	***G***	***G***	***G***	_	_
When paper longer than A4 is fed in a toner near end condition, not enough toner is supplied.	***N***	***J***	***G***	***G***	***G***	_	_

Model: AD1-E	Date: 15-Oct-97	No: 40D

A2245532	A224-10	A224-15	A224-17	A22455
E	AK87070001~	9A37060001~	A7427060001~	L027080001~
F	AK87080023~	9A37080001~	A7427080001~	_
H	AK87090001~	9A37090001~	A7427090001~	L027090031~
K	AK87100001~	9A37100001~	A7427100021~	L027111066~
L	AK87120001~	9A37120001~	A7427120001~	L027121721~
M	AK88020001~	9A38020001~	A7428020001~	L0248022670~
N	***TBA***	***TBA***	***TBA***	***TBA***

A2245533	A224-22	A224-26	A224-27	A224-29	A224-65
C	AK97070543~	3P30870001~	A7427080601~	A7427081501~	_
D	AK97090001~	3P30970001~	A7427090305~	A7427091035~	L0247090216~
F	AK97100001~	3P31070001~	A7427100176~	A7427101246~	_
G	AK97110001~	3P31170001~	A7427110081~	A7427110881~	L0247111341~
H	AK98020001~	3P30280001~	A7428030351~	A7428020101~	L0248023356~
J	***TBA***	***TBA***	***TBA***	***TBA***	***TBA***

Model: AD1	Date: 31-Aug-98	No: 53
Subject: Factory change information	Prepared by: S.Tomoe	
From: QAC Field Information Dept.		

Classification:

☐ Troubleshooting	☐ Part information	☐ Action required
☐ Mechanical	☐ Electrical	☐ Service manual revision
☐ Paper path	☐ Transmit/receive	☐ Retrofit information
☒ Other ( )		

The factory for the 115 V version of the AD1 will be changed from Japan to Korea from September production. This RTB informs the new AD1 which will be made in Korea.

Machine Code and Model Name

Brand	Ricoh	Gestetner	Savin
Machine Code	A264-17	A264-10	A264-15
Model Name	Aficio 200	3220	9920DP

1. Parts Information

1.1 The following parts will be made in Korea. These parts will be orderable using the same part number as for the A193 machine.

No.	Description	Index	Page
1	Release Spring	14	19
2	Paper Guide	8	15
3	Lower Rear Cover	6	9
4	Scanner Left Cover	3	7
5	Upper Rear Cover	10	7
6	Scanner Right Cover	11	7
7	Lower Cover – Operation Panel	1	7
8	Middle Left Cover	4	9
9	Rear Right Cover	12	9
10	Lower Right Cover	14	9
11	Front Cover	18	7
12	Lower Exit Cover	21	9
13	Left Exit Cover	15	49
14	Right Exit Cover	26	49
15	Left Front Cover	17	7
16	Right Front Cover	16	7
17	Cap – G4	7	9

No.	Description	Index	Page
18	Cap - Sorter	22	9
19	Cap - NCU	8	9
20	Cap - CSS	10	9
21	Cap - Memory	9	9
22	Cap – IC Card	2	9
23	Cap – RS232C	1	9
24	Cap – Paper Tray Unit	11	9
25	Left Original Scale	4	7
26	Rear Original Scale	6	7
27	Upper Harness Guide	4	25
28	Paper Size Detector (LT)	7	17
29	Fusing Unit (115V)	*	33
30	Fusing Unit Frame	24	33
31	BICU Board (115V)	3	45
32	IOC Board	6	45
33	MSU – 4MB	4	45
34	Mother Board	27	45
35	Relay Harness – Scanner Unit	14	45
36	Relay Harness – Polygon Mirror Motor	5	27
37	DC Harness – Mother Board	22	45
38	Harness – Power Supply Board	19	45
39	Harness – Operation Switch	13	49
40	Harness – Fusing Lamp	20	45
41	Harness – Key Counter	18	45
42	Harness – Mother Board	23	45
43	LD Unit Harness	1	27
44	DC Power Supply Board	10	45
45	Left Relay Guide	8	51
46	Right Shielding Plate	2	21
47	Right Duct	2	35
48	Inner Cover – Paper Feed Tray	18	9
49	Cap – Inverter Unit	20	9
50	Front Side Fence	5	17
51	Rear Side Fence	6	17

No.	Description	Index	Page
52	Guide Plate – Vertical Transport	16	21
53	Release Lever – Bottom Plate	9	17
54	Release Arm – Paper End Feeler	24	21
55	Paper Tray Cover	1	17
56	Front Stopper Lever	16	17
57	Support – Paper Tray - Right	15	9
58	Support – Paper Tray - Left	19	9
59	Spring – 2.4N	34	43
60	Cover – By-pass Table	2	15
61	Right Side Fence – By-pass Feed Table	5	15
62	Left Side Fence – By-pass Feed	3	15
63	Bottom Plate – By-pass Table	7	15
64	Stay – By-pass Feed	19	19
65	Cover – Feed Roller Shaft	27	19
66	Upper Fusing Cover	5	33
67	Guide Plate – Feed Down	26	39
68	Shaft – Transport Roller	20	37
69	Left Cover Tray	2	39
70	Sub Copy Tray - FU	1	39
71	Exit Relay Roller	8	39
72	Exit Roller - FD	10	39
73	Right Vertical Guide	4	39
74	Inverter Unit Connector	13	47
75	By-pass Feed Sensor	9	15
76	Harness – Paper Size Detector	17	9
77	Harness – Paper End Sensor	21	21
78	Harness – Fan Motor	17	45
79	Harness – Humidity Sensor	16	49
80	Harness – Registration Sensor	28	19
81	Harness – Main Motor	4	41
82	Lower Left Cover	3	9
83	By-pass Feed Shaft	29	19
84	Upper Rear Guide – Paper Tray	4	21
85	Upper Front Guide – Paper Tray	3	21
86	Exposure Glass – A3T – 3.2	5	7
87	Lens Holder Ass'y	9	23

1.2 For the –15 machine

The –15 machine will be changed to an OEM generic version. So, the following part numbers will be changed.

A193-15 machine	A624-15 machine	Description	Index	Page
A1931453	A1931451	Operation Panel Ass'y	2	7
A1931498	A1931458	Key Top - Memory	13	13
A1931496	A1931461	Key Top – 10 Key	11	13
A1931491	A1931477	Key Top - Start	6	13
A1931492	A1931478	Key Top – Clear Mode	7	13
A1931493	A1931479	Key Top - Interrupt	8	13
A1931494	A1931480	Key Top – Program Mode	9	13
A1931495	A1931481	Key Top - Clear	10	13
A1931497	A1931483	Key Top - LCD	12	13
A1931499	A1931485	Key Top - Internal	14	13
A1931449	A1931486	Key Top - Behind	15	13
A1937224	A1937226	Front Door	14	7

The following part will not be used.

A193-15 machine	A624-15 machine	Description	Index	Page
A1337112		Emblem (SVN)	15	7

Model: AD1/AD1-E	Date: 15-Nov-98	No.: 54

Subject: Copy Jam HIstory Codes and P to P Diagram	Prepared by: S.Tomoe
From: GTSS Field Information Dept.	

Classification:	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☒ Other (Service manual correction)		

1. The jam codes in the copy jam history display, which are listed on page 4-38 should be corrected as follows.

   1. Jam code correction

Incorrect Jam Code	Correct Jam Code	Meaning
100	124	Duplex entrance sensor not activated.
124	100	Duplex turn sensor not activated.

   2. The following new jam codes should be added.

Jam Code	Meaning
1	Jam detected just after power is switched on
60	Registration sensor not activated (from LCT)
61	LCT relay sensor not activated
160	Finisher entrance sensor not activated
161	Finisher entrance sensor remained activated by paper
162	Finisher exit sensor not activated
163	Finisher exit sensor remained activated by paper
164	Finisher jogger unit paper sensor not activated
165	Finisher jogger unit paper sensor remained activated by paper
166	Finisher inverter sensor not activated
167	Finisher inverter sensor remained activated by paper

2. Point to Point Diagram

   CN157-8 and CN157-11 of the IOCSS board should be exchanged as follows. Also, correct the service manual, page 7-11.

Point to Point	Service Manual	Correct	Incorrect
Page 1/2 Location B-17	Page 7-11 Section 3.1 Sensors	CN 157-8 Upper Exit Sensor	CN 157-11 Upper Exit Sensor
		CN157-11 Lower Exit Sensor	CN157-8 Lower Exit Sensor

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